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THE BLISTER RUST NEWS



January, 1931.

Volume XV

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U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
OFFICE of BLISTER RUST CONTROL

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister-Rust Control
and Cooperating States

Vol. 15, No. 1

January, 1931.

SUMMARY OF CONTROL WORK AT WOODSTOCK, VERMONT

White pine occurs but seldom naturally in the town of Woodstock and in instances where it does it is found mostly in pure stands. The pine area is comprised almost entirely of planted pine of single species which vary in size from one to fifty acres. Ribes are generally distributed throughout the pine area and average about seven per acre. Woodstock is one of the places where infected German stock was planted, hence it became an infection center. In one instance a plantation was cut in order to eradicate the disease in the early days of blister-rust work.

Infection on pine was present in most of the plantations when eradication of Ribes was started in 1923. To date, little or no new infections have been observed where control methods have been applied. Approximately 95% of the pine area has been initially protected by the removal of currant and gooseberry bushes, and 75% has been reworked. The cost of land covered initially was 36 cents per acre, 7 ribes per acre being found. The cost of the reeradication work was 27 cents per acre, and 3 ribes per acre were destroyed. Present indications are that the present white-pine crop in the town of Woodstock will mature with but slight need of future protective measures where initial control work and "reeradication" has been carried on.

F. H. Rose, Vermont.

BLACK-CURRENT PROJECT STARTED IN WESTERN MASSACHUSETTS

Early in September an initial drive to destroy the European black currant, (Ribes nigrum) got under way in Berkshire and Franklin Counties. The towns worked and completed as a special project are as follows: New Marlboro, Sandisfield, Sheffield, Northfield, Bernardston, Colrain, Heath, and Leyden. In addition to these, four other towns were completed in connection with routine eradication of wild Ribes. Our experiences in this work have been pleasant, cooperation has been 100 per cent, and no one applied for compensation either for black currants or for any other cultivated Ribes destroyed during the season. From what we have learned from others who have had more experience in this particular phase of eradication work and from our brief experiences this season, we do not anticipate any particular difficulty in completing the project in western Massachusetts.

Plans are now being made to concentrate our entire field force on the black-currant work during the 1931 field season. There are still 49 towns and cities to be canvassed. Past experience has demonstrated that up-to-date field maps are indispensable in this program and a most important factor in keep the cost of operations at a low figure. Tentative plans and figures on the job in hand indicate that the work can be done at a very reasonable cost.

December 29, 1930.

G. Stanley Doore, Mass.

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DATA FOR WHITE RIVER DISTRICT, VERMONT

During the winter months the following data for the entire district will be compiled. A card system will take the place of the B.R. 1 forms formerly used, which gave the data for each cooperator, his name and address, the number of acres of pine protected, acreage covered, cost, number of Ribes, block and plot number, and the year the work was done. The same data will be on the card. However, where it was necessary to have a B.R. 1 form for each cooperator, which formed a bulky pile that was hard to file and obtain information from quickly, the card will have all the data of the B.R. 1 forms. From 30-35 names can be included on each card. Separate cards are used for each town and filed in a file box 5x6x3 which is more than large enough to hold all data from 1922 to date. The same information for non-cooperators will be worked up so that there will be a complete record of what has been accomplished and what is necessary to do in order to finish the work in each town. A brief summary for each town describing local conditions will be written; also one for the district.

F. H. Rose, Vermont.

PRODUCTIVITY OR YIELD FROM EUROPEAN BLACK CURRANTS

Some rather valuable information was obtained from a gentlemen known as "The Currant King" of Massachusetts. This grower, who by the way, has some 25,000 red currants under cultivation on his fruit farm, gave it as his personal experience that the average yield from European black currants (*Ribes nigrum* L.) is between 1 and 2 quarts per bush. He admitted that occasionally bushes might be found that would produce from 3 to 4 quarts in an unusually favorable growing season, but that such a yield is exceptional rather than the rule.

This information is of particular interest as bearing upon the value of black currants as a crop producer. If the average yield is less than 2 quarts per bush, the net value of the crop, even at present day prices for black-currant fruit, cannot be very high.

It might be added that European black currants to the number of 307 were removed from the property of "The Currant King" in connection with the State-wide campaign to eliminate this variety of *Ribes* from Massachusetts.

Dec. 1, 1930.

C. C. Perry, Mass.

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RODENTS ACTIVE EARLY

While visiting an infection area in the town of Ashburnham, northern Worcester County, Massachusetts, I was concerned to note that rodents had been most active and had already inflicted a great deal of damage to the majority of the infected pines. In fact, there were many trees that at a glance might not have been noted as infected save for the fact that attention was directed to them by the gnawed bark resulting from this rodent feeding. I do not recall having seen such activity at this season of the year. Perhaps it points to a food shortage or a hard winter. Who knows!

Dec. 19, 1930.

W. T. Roop, Mass.

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SCOUT MAPS PROVE VALUABLE

Mr. T. J. King, New Hampshire agent, under date of December 1, writes:

"Some time ago I wrote you about the probable use of one of my scout maps in preparing a property line survey in the town of Boscawen. I recently talked with the man who had charge of this survey and asked him as to how much use our scout map was to him. He informs me that it was of great value to him assisting him with a great saving of time in getting together the information he needed. He also stated that it was of great assistance to him right on the ground in determining the whereabouts of the various property lines. This is, of course, pleasing knowledge to those of us who have put a great deal of time and thought into the development of the scout map idea."

BLISTER-RUST CONTROL IN NEW HAMPSHIRE IN 1930.

Eighty-five New Hampshire towns and cities in the spring of 1930 again registered their belief in the necessity for blister-rust control by appropriating \$24,300. These appropriations were increased 25 per cent from State funds available for this purpose.

Control work began on April 25th. The total of all areas examined in these eighty-five towns and cities aggregated 133,659 acres, on which currant and gooseberry bushes to the number of 1,798,066 were located and destroyed.

Control measures were also carried on in 40 towns, under the provisions of the amendment enacted by the last sessions of the State Legislature. The total control areas in these towns amounted to 83,884 acres, and 932,718 bushes were uprooted and destroyed.

Cooperative eradication of currant and gooseberry bushes was also conducted upon the lands of 16 individuals, who made available for this purpose about \$2,000. Their holdings, together with the necessary protection strip, aggregated 4,024 acres, and 84,259 bushes were found.

Six towns appropriated for a second examination of their woodlands, but owing to the large volume of initial work, it was possible to carry on this class of control measures in but two. In five other towns certain areas were also rechecked. Thus the total lands reeradicated amounted to 4,773 acres, upon which 23,307 bushes were pulled. Some individual reeradication was also conducted and comprised 2,060 acres, only 9,743 bushes being found.

In order to assure purchasers of white pine nursery stock perfectly healthy trees, certain areas of the State Forest Nursery were re-examined, and these totaled approximately 100 acres.

Thus, the aggregate of all control measures carried on for the first time amounted to 221,567 acres and 2,815,043 currant and gooseberry bushes destroyed. Lands re-covered totaled 6,933 acres and the bushes pulled thereon 33,050.

That the spread of the rust is increasing in areas where currant or gooseberry bushes have been allowed to remain is quite evident from the daily reports submitted by crew foremen and scouts covering the infections seen from day to day.

L. E. Newman, N. H.

(Extract from "New Hampshire Forests", Vol. VII, No. 4, December, 1930, p.11.)

Edit: From the above figures it is calculated that currants and gooseberries in the first eradication work averaged 12.7 bushes per acre, while in the "reeradicated area" the number of Ribes destroyed amounted to but 4.8 bushes per acre.

SOME OBSERVATIONS ON LATE PRODUCTION OF UREDINIA, UNACCOMPANIED BY TELIA
IN ESSEX COUNTY, N. Y.

During the recent Blister Rust Conference at Littleton, N.H., the question was raised as to how late in the season infection might occur on Ribes - the answer being that this might take place, in a given locality, just as long as Ribes leaves remained on the bushes. In this connection, I recently came across a rather striking instance of late infection on Ribes, which may be of some interest to those who were present at the discussion mentioned, and perhaps to blister rust workers in general.

On October 3, 1930, while engaged in the examination of a strip-line survey of blister rust in Essex County, with the help of Messrs. Cleland, Doyle, Dudley and Johnson of the State blister-rust organization, I noticed a Ribes bush which bore leaves that seemed unusually fresh for the time of year. This bush was located on the tract known as "Clear Pond Park," a subdivision of the Pardee Estate, in the town of Chesterfield, about eight miles north of Lewis Village.

On close examination, this bush proved to be Ribes cynosbati (L) Mill. The fresh appearance of the leaves was due to the fact that they had developed as a late second crop, after the falling of the first leaves. A specimen of twig with attached leaves, which has been submitted to the Office of Blister Rust Control at Washington, shows the typical position of these leaves on an internode which had apparently developed in September from the bud terminating the normal 1930 growth, the lateral buds having already gone into the winter stage. (The resulting "false node", formed here, illustrates, incidentally, one of the reasons why it is so easy to miscalculate the age of a Ribes stem.)

The leaves themselves had reached the stage of development which one would ordinarily look for in the early or middle part of June, being from one and a half to two centimeters in length, bright green in color and with a smooth surface. They were, for the most part, heavily infected by Cronartium ribicola, but with this peculiarity: Only the uredinial or early summer stage, was present.

A minute examination of eighteen infected leaves, under the dissecting microscope, failed to reveal the presence of any telial columns. The uredinia were in various stages of development, from unbroken sori to those which had become dead or decadent. In the majority of cases, however, the sori were in process of active sporulation.

E. W. Littlefield,
N. Y. Conservation Department.

THE 1930 CONFERENCE AGAIN

There have been so many comments regarding the recent conference at Littleton, possibly one more will still be in order.

There appears to be a unanimous feeling that the program was most carefully and thoughtfully planned and equally well carried out. The field trips were unexcelled and full of exceptional opportunity to increase our knowledge. To Messrs. Filler, Newman, Stimson, et al, we are all deeply indebted.

Similar agreement seems to prevail, however, that the provision for the intimate discussion of some of our problems might be improved upon in some manner. Just how this can be accomplished is debatable. In this connection it may be of interest to quote from the annual report of blister-rust control work in Massachusetts for last year (1929). Included in his recommendations, the State Leader suggested the following:

"That, at future annual conferences, provision be made for holding individual conferences between the group of agents from each of the cooperating States with some of the personnel of the Washington office."

The purpose of this recommendation was to help to make more intimate the contact between the Federal office and the field men. In this recommendation, however, there may be a germ of an idea that may solve this question of adequate discussions. It may not be advisable, of course, to limit the group to the agents from one State, but perhaps it can be worked out on the basis of phases of the complete problem as suggested by Mr. Hurford in the November issue of the "News"; namely "by grouping people having a common interest in various phases of the work".

A further suggestion is certainly well expressed by Mr. McIntyre in the same issue, to the effect that a portion of the conference be set aside for the discussion of topics "in person rather than at an open meeting". As a matter of fact, friend Mandenberg commented well when he confessed that the newer men in the organization glean more of value from the annual conferences through personal contacts with the members individually, than in any other way. This view seems to be acquiesced in by many others and might well be considered in making plans for future sessions.

December 1, 1930.

C. C. Perry, Mass.

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Mr. S. B. Detwiler gave an interesting address on "The White-Pine Blister Rust in the Inland Empire" on the morning of December 31st before the Society of American Foresters, which held its annual meeting at the Wardman Park Hotel in Washington during Christmas week.

WHITE-PINE BLISTER RUST

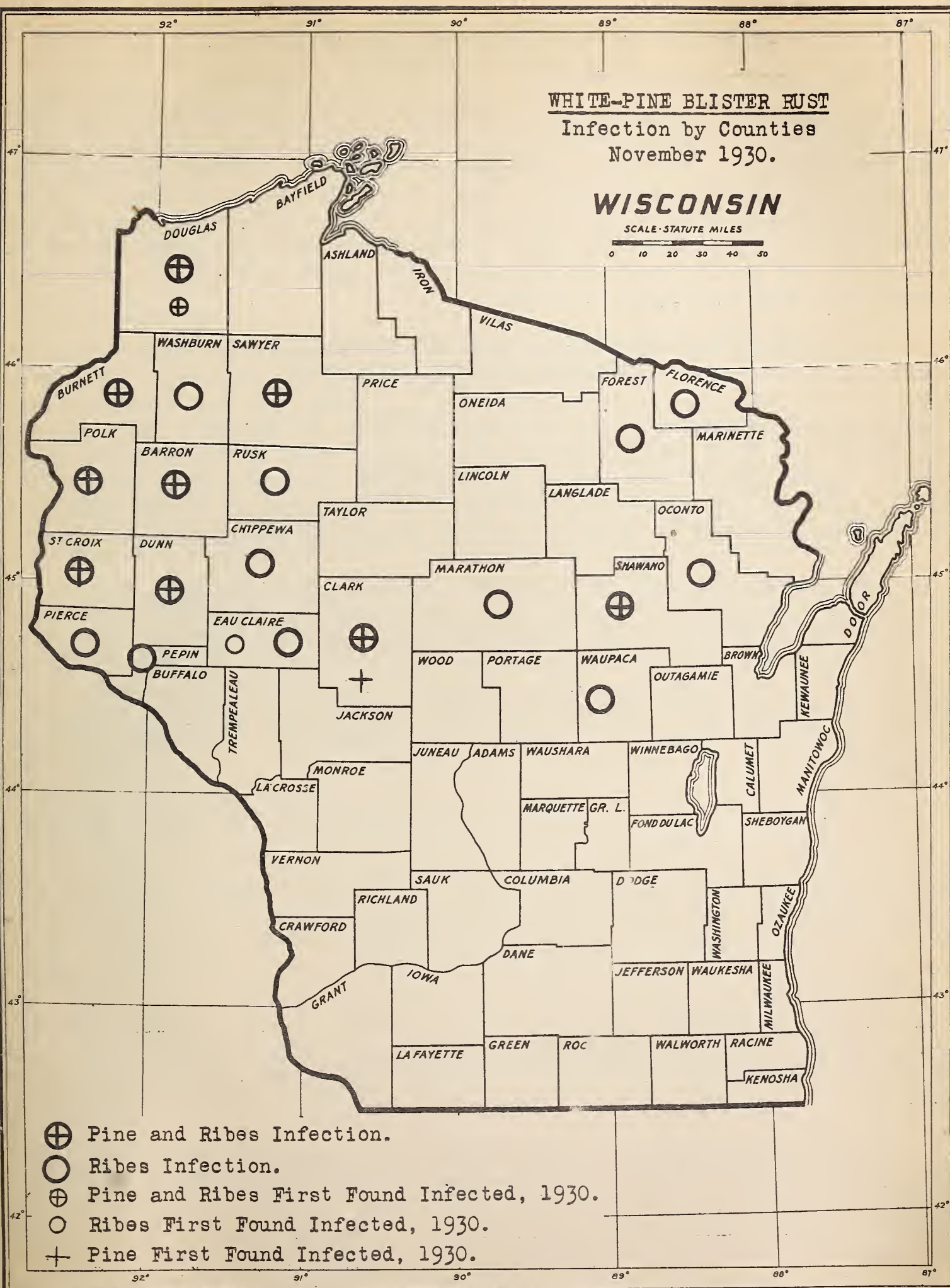
Infection by Counties

November 1930.

WISCONSIN

SCALE - STATUTE MILES

0 10 20 30 40 50



SILENT SALESMEN AT WORK DURING THE MASSACHUSETTS
TERCENTENARY CELEBRATION

The people of Massachusetts celebrated from June to October 1930, the 300th anniversary of the founding of the Massachusetts Bay Colony. Practically every community prepared a program of particular interest to those who once made Massachusetts their home, urging former residents to join in celebrating an event of which they may well be proud. Hundreds of thousands of people visited the State for the first time, because of this event, and had it not been for the general business depression the number of visitors would have no doubt have been half again as large.

Incidentally the celebration afforded us a wonderful opportunity to promote our blister-rust educational program. This was foreseen and recommended at a State blister-rust conference early in 1930. At that time additional educational display material was requisitioned to assure a well rounded out program in this particular phase of our work. Some of the material could not be furnished due to unavoidable circumstances, but even this was not allowed to halt our plans, although it did in a way limit us in the number of displays we had hoped to keep in certain locations throughout the season.

THE SILENT SALESMAN, better known perhaps as a roadside display or demonstration, was made a feature of the educational activities, especially in western Massachusetts. We thoroughly believe in this method of reaching the public and for that reason a greater effort than ever was made to bring blister rust to the general public. We have as yet to learn of any better method of bringing the rust in its real form, cankers and damage, to the public at anywhere near the cost involved in maintaining these Silent Salesmen in the field.

This season a total of 32 sites were occupied by displays at one time or another. This, however, does not include special set-ups at four agricultural fairs and two Old Home Week Celebrations. Starting at the Orange-Athol Airport and Lake Rohunta, adjacent to Worcester County, the eastern boundary of our district and on through to the New York State line on the west, the main routes such as the Mohawk Trail, Berkshire Trail and Jacobs Ladder Trail were especially cared for during the season. All displays were placed in conspicuous but unoffensive positions on the main traveled routes, summits of all trails, at gasoline stations, public camping grounds, summer resorts, bathing beaches, Y.M.C.A. camps and at other points where people naturally stop and usually have a little time to examine or study a display of this nature.

It would be difficult to even estimate the number of people who view the displays, but if a count could be made we feel that the total would be suprisingly large. At various times we have been in the vicinity of these set-ups to see how things were progressing. If traffic is about normal, one never has to wait long before interested parties appear on the scene.

Their comments are varied, always interesting, and give us a good cross section of the general trend of thought and attitude of the public towards blister-rust control work. The displays are so different from any other kind of out-of-door advertising that even the most choice locations are invariably placed at our disposal. The owners of such locations welcome additional drawing cards and they say, "You would be surprised at the number of people who look at that display".

Nov. 29, 1930.

G. Stanley Doore, Mass.

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A STEREOMOTOGRAPH ADDED TO EQUIPMENT FOR BLISTER-RUST
EDUCATIONAL WORK IN MASSACHUSETTS

After many months of procrastination a stereomograph has recently been purchased as an addition to the equipment used in furthering blister-rust educational work in Massachusetts. The machine finally selected is the smallest model that it has been possible to locate. It magnifies a series of 25 standard lantern slides one after the other, and projects the magnified pictures onto a daylight screen affixed in the front of the machine.

A series of slides has been prepared consisting of 15 colored slides and 10 work slides, the latter similar in wording to the series listed in the item on page 157 of "Blister Rust News", Volume XIII, No. 7.

The outside dimensions of the stereomograph are 24" high by 15" wide and 20" deep. The picture displayed is 12" by 13" on the screen. The machine is contained in a fibre trunk and, therefore, might be called portable, but is of such weight (machine and trunk together weigh 65 pounds) and shape to make it rather cumbersome to carry. However, one person can carry the outfit from an automobile to a building with an effort.

This equipment will be used in conjunction with blister-rust displays in store windows, post offices, at meetings and at fairs. It is anticipated that good results will be obtained from this silent lecturer in the advancement of blister-rust educational activities.

Dec. 19, 1930.

C. C. Perry, Mass.

Note: Mr. Perry will be glad to furnish any details regarding cost, manufacturer, etc., upon request.

MASSACHUSETTS AGENTS IN CONFERENCE WITH STATE LEADER

The Massachusetts Agents met in Boston on December 11th for their regular post-season conference with State Leader Perry at the State House. Mr. Filler who had recently returned from the field presented a very interesting account of activities in some of the other States and referred particularly to the serious situation in the West.

The following list of topics suggested for discussion will give some idea of the variety of topics covered at these periodic conferences:

Reeradication

What is the department's attitude toward reeradication?
How can the cost of this work be reduced?

Black Currant Location and Eradication

Can this be combined with reeradication work, or should it be handled as a separate project without further delay?
Should there be any intensive newspaper publicity prior to starting the work?
What system of interviewing owners, use of maps and records has been found most satisfactory?
Are there any pitfalls to be avoided?

Records

How can we best bring our records up to date so that we may know just where we stand?
Are our map records sufficient for our purposes.

Miscellaneous

How can we make our services more useful to the public?
How can we assist in the unemployment situation?
How can flowering currants be more effectively eradicated?
Should we not make a special effort to collect data regarding the effectiveness of Ribes eradication work?

Agents Brockway, Clave, Doore, and Wheeler were in attendance. Former Agent McNerney was also present for a few minutes and renewed acquaintance with his former associates. Mr. McNerney is now with the Office of Plant Quarantine and Control Administration in charge of transit inspection activities in the Boston area.

Dec. 19, 1930.

C. C. Perry, Mass.

BLISTER RUST IN MILLE LACS COUNTY. MINNESOTA

Ribes infection was reported as occurring in Mille Lacs County in 1920, 1925, and 1927. Only a single infection was reported in 1920. apparently in Township 38-26. Three infections were reported in 1925. To be brief, Ribes infection prior to 1930 was reported in Townships 38-26, 38-27, and 40-26.

The first pine infection in Mille Lacs County was found the past July by L. B. Ritter, D. M. Stewart and H. G. Leyde in Section 18, Township 42 N., Range 26 W.

The stand of pine in question was practically Ribes-free. Apparently several cultivated black currants growing in a garden on the edge of the stand were responsible for the infection. These were heavily infected and were removed later by the owner and Blister-Rust Agent Stewart.

During the months of July and August, pine infection was found by Stewart and Leyde in Section 29, Township 39 N., Range 26 W., in an 80-acre stand, and in Section 23. Township 41 N., Range 26 W. The infection found in Township 42-26 occurred in 1928 or 1929. The infections reported in the other two townships were not reported as to age.

The comment might be made that wherever Ribes infection is found year after year, pine infection will be found eventually if there is white pine in the same locality.

The present status of the blister-rust control program in Mille Lacs County follows:

<u>Township</u>	<u>Eradiated Acres</u>	<u>Ribes-Free Acres</u>	<u>Acres to be Worked</u>
South Harbor	--	40	--
Onamia	197	75	580
Lewis	10	60	35
Borgland	--	--	37
Halen	--	--	80
Isle Harbor	--	120	27
Milaca	40	--	--

Mille Lacs County produced some of the finest white pine in Minnesota and there was lots of it. The fact that only 1,300 acres remain of this pine is typical not only of Mille Lacs but of almost every other county in northern Minnesota.

L B. Ritter, Minn.

WHITE PINE BLISTER-RUST QUARANTINE ENFORCEMENT *

Purposes

The Federal quarantine relating to the white-pine blister-rust disease has three primary purposes: (1) Preventing the interstate movement of possibly infected pine trees and currant and gooseberry plants into 5-leaved pine-growing areas which the blister rust has not yet reached, such as those of the southern Appalachian Range of the East and the Sierra Nevada Mountains of the West; (2) assisting the States which have established blister-rust control areas in preventing the introduction of currant and gooseberry plants into such areas, and (3) inspecting the premises and environs of pine-growing nurseries in the generally-infected States when the owners desire to propagate 5-leaved pines under such sanitary conditions that they can be safely authorized to ship such pines to lightly infected States.

Restrictions

The safeguards established by the blister-rust quarantine regulations to accomplish these purposes restrict the movement of 5-leaved pines and currant and gooseberry plants by limiting the destinations to which these plants may be sent from the infected and neighboring States, and by requiring, in the case of currant and gooseberry plants, such conditions of dormancy defoliation, and chemical treatment that nursery-stock shipments could not transmit blister-rust infection. These safeguards are such that it is in most cases unnecessary for department employees to inspect and certify nursery-stock shipments of this kind prior to shipment, as it is possible to determine compliance by examining the stock en route, with a much smaller personnel and at greatly reduced cost. This plan of enforcing the blister-rust quarantine regulations by means of inspection in transit at strategic express, parcel-post and freight-distribution centers has accordingly been followed for some years past. Since a coordinated system of transit inspection for aiding in the enforcement of the various quarantine is being organized, this subject is discussed separately on a later page.

Number of Interceptions

As will be noted from Table 15 (see next page) 113 violations of the blister-rust quarantine have been intercepted during the year by transit inspectors, the stock in all cases being returned to the consignor. Of these violations 48 were shipped by commercial nurserymen and the remaining 65 by persons not commercially interested in the transportation of nursery stock. Five additional violations of this quarantine were discovered by those engaged in enforcing the reshipment restrictions of the Mediterranean fruit fly quarantine regulations, and 59 were intercepted at road stations established to enforce the Japanese-beetle quarantine.

* Report of the Chief of the Plant Quarantine and Control Administration for the Fiscal Year ending June 30, 1930.

Nursery Sanitation Work

The only field inspections which are made by the administration in connection with this quarantine consists of going over the premises and environs of pine-producing nurseries in the generally infected States where such nurseries are attempting to comply with the sanitation requirements necessary to enable them to ship into the more lightly infected regions. Such movement is authorized when the pines concerned have been raised from seed in a nursery free from currant and gooseberry plants and with a Ribes-free zone around the premises. Only 3 nurseries have been issued such permits thus far; 1 in Maine, 1 in Vermont, and 1 in New York. In addition, a tract in Connecticut on which a nurseryman wishes to plant 5-leaved pines was tentatively approved. A number of additional inspections were made in June, 1930, and it is probable that other nurseries will be able to comply with the requirements in the future.

Summary of Shipments of Nursery Stock Intercepted in
Violation of Federal Plant Quarantine 63 at Transit
Inspection Points. Fiscal Year 1930.
(Extract from Table 15)

Station	Comc'l.*	Non Comc'l.**
Birmingham.....	0	1
Chicago.....	23	25
Cincinnati	1	0
Council Bluffs.....	1	2
Kansas City	2	5
Minneapolis	0	2
Nashville.....	0	1
New York	7	5
Omaha.....	1	6
Pocatello.....	1	0
Portland.....	8	3
St. Paul	2	9
Seattle	1	5
Spokane.....	1	1
Total.....	48	65
Grand Total	113	

* Comc'l. indicates packages sent by commercial shippers.

** Non Comc'l. indicates shipments by those not engaged in business to which the quarantine relates.

TIMBER CONSERVATION BOARD

President Hoover on December 5, 1930 appointed thirteen members of the Timber Conservation Board, according to the press today. The commission is to be headed by Secretary Lamont, of the Commerce Department, through whose office the announcement was made. Secretaries Hyde and Wilbur are members along with John W. Blodgett, Grand Rapids, Mich.; W. M. Ritter, Columbus, Ohio; John C. Merriam, Washington, D. C.; Paul G. Redington, Washington, D. C.; George D. Pratt, New York; D. C. Everest, Wausau, Wis.; Carl R. Gray, Omaha, Nebr.; John H. Kirby, Houston, Tex.; Louis J. Taber, Columbus, Ohio, and Charles Lathrop Pack, Lakewood, N. J.

(Daily Digest)

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WHITE PINE USED FOR PULP WOOD

To help out on unemployment a paper company in Michigan has placed contracts with farmers and others in Muskegon and Newaygo Counties for several thousand cords of white-pine pulp wood. No trouble was experienced in obtaining wood; in fact more was offered for sale than they cared to handle at this time.

The wood is cut to a limit of 4" at the small end. This limit is made to apply only to large stock where several cuts are made so as to utilize as much of the trunk as possible. Cutters are cautioned to avoid small timber where only one or two cuts are obtained from the tree.

The price paid for white-pine pulp wood is \$7.50 per cord of 128 cubic feet, f.o.b. factory. The wood is bought with the bark on; in other words, rough.

The sulphate process is used in converting the white pine into pulp and from this Kraft wrapping paper is manufactured. Comparing white pine and jackpine, there is no difference in the manufacture into pulp. One species is as valuable as the other.

R. I. Thompson, Michigan.

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THINK IT OVER!

17. "Success is the attainment and preservation of a practical and legitimate ideal."
18. "Keep an even temper no matter what happens."
19. "We have lots of troubles, but most of them never happen."
20. "Substitute your backbone for your wishbone. Use backbone instead of wishbone."

TWO OLD WHITE FINES PRESERVED

Through the efforts of a committee appointed at a meeting of the Society for the Protection of New Hampshire Forests, Mr. E. E. Hoyt of East Madison has set aside a small lot of land on which are growing two old-growth white pines. The trees are about 50 feet west of the Eaton-East Madison road just south of the Eaton town line.

The trees are growing about 10 feet apart and are 38 and 34 inches in diameter. The trunks are smooth and straight up to the lowest limbs which are between 40 and 50 feet from the ground. They are healthy specimens and look as though they would live a great many years. They serve to remind us of the trees that used to grow in New Hampshire.

S. H. Boomer, N.H.

(Extract from New Hampshire Forests, December, 1930, p. 25)

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TOWN FORESTS FOR GRAND RAPIDS, MICHIGAN

Dr. F. L. DuMond of Grand Rapids has a short note on the Grand Rapids town forests in "The American City" for January, 1931.

The purposes of the town forests are stated as being: (1) to establish a city demonstration area on which children of Grand Rapids may learn to plant trees; (2) to enable the city's youth to become intimately acquainted with the important forest trees of their own State; (3) to provide an outdoor laboratory where trees of various species may demonstrate their ability to grow in Michigan; and (4) to develop "tree consciousness" on the part of young and old.

The planting plan calls for the creation of a forest of 50 acres of old fields in Aman Park, through use of 60,800 trees, planted at 6-foot intervals, or 1,210 to the acre. The trees are to be planted within a period of 5 years, by the setting out of 10 acres (12,100 trees) per annum. Dr. DuMond says, "To make this plantation of the utmost educational value, each child should be limited to the planting of 25 trees, which is sufficient to enable the planter to grasp the technique without tiring."

Edit: It would be well for the Michigan men to look into this planting plan and if white pines are to be included, to see that Ribes eradication is carried on either with or before the planting.

WHITE PINE SAVES NEW HAMPSHIRE FARMER \$3,000

"If it had not been for my woodlot I never could have built this barn", said Mr. Dwight Dennis of North Haverhill in speaking of his new barn that replaces the old one destroyed by fire last year. "I figure that I have saved \$3,000 by getting out the pine from my woodlot and having it sawed at the local mill."

Mr. Dennis' new barn is one of the best in this section. It is 80 feet long, 40 feet wide and 52 feet from ridgepole to basement floor. The upper part of the barn contains a rat proof grain room and storage space for 125 tons of hay. A modern cement stable, with plenty of light and good ventilation, 40 tie-ups, and bull, calf and maternity pens occupy the basement. Also in a corner, well separated from the cows, are stalls for 4 horses.

The milk house is separated from the stable by two doors and a small passageway, a feature that is much to the liking of milk inspectors. The 8-can milk storage and cooling tank is of the most modern and approved type. It is made of cement, inside of which is imbedded 3 inches of cork, thus greatly conserving ice and increasing efficiency.

Mr. Dennis states that he will have around \$4,000 in cash expense in the barn when finished; it having required about 65,000 feet of lumber, ninety percent of it being pine and the rest hemlock. The saw bill amounted to \$400 and other cash expenses were for cement, double glass windows, ventilators, nails, roofing, paint, stanchions, labor, etc. The estimated contract price for the barn is conservatively placed at from \$7,000 to \$8,000.

The \$3,000 saved, meaning cash, as estimated by Mr. Dennis does not, of course, include the labor of Mr. Dennis and his son. The point to be stressed, however, is the fact that the pine lot, plus the labor of Mr. Dennis and his son, enabled him to erect a new barn above the ruins of the one destroyed by fire. It is one example of the sudden importance and increased value of the farm woodlot to the farm.

T. L. Kane, N. H.

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SPECIMENS SENT TO INDIA

In response to a request from the Forest Research Institute and College at Dehra Dun, India, for specimens of the white-pine blister rust, a collection of dried specimens of Cronartium ribicola on various Ribes hosts, and preserved specimens of the rust on Pinus strobus were sent the Institute from the Washington Office. Word was received from Mr. K. Bagchee, Mycologist on December 29th that the specimens came through in fine shape, and that they were much pleased with them.

R.G.P.

OFFICE COMMENT

MEMORANDUM CONCERNING EXPRESS SHIPMENTS

Gentlemen:

The Traffic Office of the Department has called to our attention the fact that large shipments are being made by express which apparently could be made by freight with a resultant material saving. Various shipments are cited where the express charges are large, whereas the freight on these same items would have been less than one-fifth of the express charge. Most of these shipments were made by employees in this Bureau from various points in the field to Washington. As a result of this, we are now required to furnish on all express shipments exceeding 100 pounds, and this is submitted to the Federal Traffic Board for its consideration.

It is appreciated that frequently the shipment by express of plant material or other supplies or equipment is highly desirable either because of an urgent unforeseen need or because of the character of the consignment. However, in every case careful consideration should be given to shipments of this sort in order that they may be held to a minimum. Every effort should be made to foresee needs for supplies and equipment which could safely be shipped by freight instead of by express. Where an express shipment of any size is made, the papers concerned should show clearly and convincingly the necessity for so doing.

Very sincerely,

B.P.I. Memo. 552
December 18, 1930.

(Sgd.) Wm. A. Taylor,
Chief of Bureau.

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COUPON BOOKS FOR THE PROCUREMENT OF GASOLINE AND OIL

The purchase on behalf of the Government of coupon books to be used in the procurement of gasoline and oil incident to the operation of an automobile under Government control is not authorized, as such purchase involves the payment for supplies in advance of delivery in contravention of section 3648, Revised Statutes.

Reimbursement may not be made of the value of a coupon book for the procurement of gasoline and oil alleged to have been used by an employee traveling under orders, in the absence of satisfactory evidence as to the time, place, quantity, or price of the gasoline and oil that were furnished in exchange for the coupons detached from the book, and that the gasoline and oil were used on the official travel. (A-25361) 8 Comp. Gen. 454.

MEMORANDUM CONCERNING LEAVE TAKEN AT THE BEGINNING
OF CALENDAR YEAR.

Gentlemen:

Memorandum No. 607, Office of the Secretary, carries an amendment to the Administrative Regulations of the Department covering authority to grant leave. The amendment to present regulations is contained in the following sentence, which is the first sentence of the second paragraph of the memorandum:

"An employee may not be granted annual or sick leave at the beginning of the leave year immediately following an absence in a nonpay status in the preceding year unless and until there has been a return to duty."

A number of questions have been asked relative to the correct interpretation of this sentence. An employee absent on leave without pay at the end of a calendar year may not be granted sick or annual leave in the succeeding calendar year unless and until the employee reports back to work. When the employee is again at work, either annual or sick leave may be approved retroactively covering the period of absence in the new calendar year, and pay voucher put in course of settlement.

Very sincerely,

B.P.I. Memo. 557
January 5, 1931.

(Sgd.) Wm. A. Taylor,
Chief of Bureau.

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TRAVELING EXPENSES - DUTY EN ROUTE TO FIRST DUTY STATION

Where an employee is directed to report to Washington or elsewhere in connection with and incident to field work, the exact field station to be determined after receiving certain instructions, he is entitled to salary and subsistence during the period he is performing such service away from his regular post of duty, but he is not relieved from the obligation of bearing the expense of reporting to his regular station; i.e., such expense as the employee would have been required to bear if no stopover had been made to perform duty en route. (A-33148) 10 Comp. Gen. 184.

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TOWN FORESTS

The movement has grown amazingly. In Massachusetts there are 84 communities with municipal forests. Twenty-four Vermont communities have joined the movement. In New York State there are now 200,000 acres in municipal forests. New Jersey towns list 35,000 acres of forest land, while in proceeding west, we find Ohio has five communities with local forests and Colorado boasts of seven cities with forested areas. Cities such as New York, Cincinnati and Rochester are taking an active part.

(Extract from "News Letter" issued by Maryland State Department of Forestry, November, 1930, Baltimore, Maryland.)

Edit: Would it not be advisable for our State Leaders and District Agents to keep track of the formation of these forests and see that blister-rust control measures are carried on where necessary and when needed.

A M O N G O U R S E L V E S

During the annual meeting of the Society of American Foresters held at Washington during Christmas week, the Office of Blister-Rust Control was visited by Dr. D. V. Baxter of Ann Arbor, Michigan, who regaled us with reminiscences of his European trip. It is hoped that Dr. Baxter can be persuaded to write an article for the News Letter on his European experiences.

Dean F. G. Miller of the University of Idaho was also a visitor at the Washington Office.

Mr. Perry H. Merrill, Forester of Vermont, was seen at the meeting.

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Mr. H. P. Avery took an extended trip during the last two weeks in December, traveling by auto from Washington to Arkansas through the Southern States. According to Mr. Avery, farm conditions in southeastern Arkansas near his former home are about as bad as painted in the press, but the people with whom he talked seemed to be optimistic and cheerful.

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Bowling News

By virtue of a three game win over the So-Kems quint in their last tilt the Blister-Rust Bowling Team clinched its hold on third place. The match was featured by very consistent rolling of the five.

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It was with sincere regret that this Office learned of the death of the father of Mr. Ed. G. Schmidt, Clerk in the Office. Mr. Schmidt was called to his home in Ohio last week by the illness of his father. Our sympathy goes out to Ed at this time.

P U B L I C A T I O N S

Ribes

Darrow, George M. and S. B. Detwiler and others. Currants and Gooseberries: Their Culture and Relation to White-Pine Blister Rust. Farmers' Bulletin 1398, Rev. October, 1930.

Tydeman, H. N. Some Results of Experiments in Breeding Black Currants, Part I. The Self Pollinated Families, in the Journal of Pomological and Horticultural Science, London, May, 1930. p. 106-128.

White Pine

Plummer, C. C. and A. E. Pillsbury. The White-Pine Weevil in New Hampshire, Bulletin 247, Univ. of N. H. Experiment Station, Durham, N. H. October, 1929.





THE BLISTER RUST NEWS



February, 1931.

Volume XV

Number 2

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
OFFICE of BLISTER RUST CONTROL



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

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February, 1931.

BLISTER-RUST CONTROL ON THE ACADIA NATIONAL PARK, MAINE

A report on white-pine blister rust control at Acadia National Park written by Mr. K. K. Stimson and Mr. E. C. Filler has recently been received at the Washington Office. The following notes have been extracted from this report:

Control work began in this Park in 1929. In 1930, Ribes eradication work begun May 19, was continued until August 25. A total of 2,762 acres were initially cleared of 239,941 currant and gooseberry bushes in 1930 at an actual cost of \$4,667.42, or an average of \$1.69 per acre.

Some 52 crew checks were made of the 1930 eradication work covering 15 acres in sections where the Ribes were most abundant. The crews eradicated 20,936 Ribes in covering the areas the first time, and 492 additional bushes were found in the checks, giving an average efficiency of 97.7% for initial eradication in these sections.

In one particularly swampy area of approximately 64 acres in Block III, over 78,000 Ribes were pulled by the crews. About 20 small bushes were found in checking over the sections of this area where Ribes were most abundant originally.

Stimson checked areas in the vicinity of Sieur de Monts Spring and the Tarn where numerous Ribes were destroyed by the crew in 1929. Only 4 small gooseberries and 11 skunk currants were found, indicating that the 1929 work was effective. The majority of these 15 Ribes were root sprouts which had made good growth in 1930.

There still remains 2,723 acres of pine land in the Acadia National Park where first time eradication of Ribes should be carried on.

Reviewed by R. G. P.

INFECTION FOUND IN ADDITIONAL TOWNSHIPS IN MASSACHUSETTS

In company with Agent Hodgkins, December 31, 1930, was spent on the Cape (Barnstable County) scouting for infection in the town of Yarmouth, Massachusetts. In these Cape towns, white pine is so scarce that the procedure is to determine the location of pine plantations as the most likely place in which to find infection. A plantation was located in the village of Yarmouthport, on the Symkins Estate, and a few minutes search resulted in finding blister rust. The specimen found was in a 16 yr. old planting, and the tree had succumbed to the rust last year. Incidentally it was found that the owner has been practicing forestry in the 15 acre plantation on the estate. The lot had been thinned once, and the remaining trees are now being pruned for the second time, so that they are now clear to about one-half their height. It is quite probable that branch cankers may have been cut off in the pruning process before the infection was able to reach the trunk. This may explain the absence of a more intense outbreak of the disease at this point.

E. M. Brockway, Massachusetts.

Note: A letter received from Agent Brockway informs me that while responding to a request for an inspection in the town of Mashpee (Barnstable County) he found a 1919 canker on a white pine in that town. This adds one more town to our infected list, and closes in a group of towns on the "heel of the Cape."

C. C. Perry, Massachusetts.

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NEW HAMPSHIRE FARM BUREAU BACKS BLISTER-RUST CONTROL WORK

The Farm Bureau Federation at the 15th annual business session held in Concord on January 16 passed a resolution which included in it their support of the white-pine blister-rust control program in the State. The resolution is as follows:

"Whereas continued and increased production of timber in New Hampshire is of vital and economic importance to the State's future welfare, Therefore, be it Resolved that the New Hampshire Farm Bureau Federation at its annual session hereby endorses and approves the work and activities of the State Forestry Department in all its efforts to promote better forest practices and secure adequate protection of our woodlands."

Sent in by L. E. Newman

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"Major" Woodward of New York suggests getting out the pine owner during the fruiting season of the rust on pine, for this is more impressive. The nature of the spread of the rust is then quite plain.

A PROPHECY FULFILLED.

In December 1923, Agent Roop reporting on the infection study plot on the Crane Estate in Ipswich, Massachusetts, made the following prediction:

"The stand is well stocked and doing well, with the exception of the blister rust which will, beyond any question, ruin the plantation and thus fail to accomplish the purpose for which the owner planted the trees. Situated as it is in plain view of one of the finest mansions on the New England coast, this plantation will in a few years, be an eye sore, not only to the owner, but also to the hundreds of people summering on Ipswich Neck."

In December 1930, a report of the current year's examination of the area contained the following comment:

"Since the 1929 inspection, conditions have been disturbed somewhat by the decision of the owner to have all the dead trees on the area removed. This was done apparently, because the plantation had become unbearably unsightly with the increasing number of dead and dying pines."

That part of the prophecy which predicted that the plantation would be ruined, has not been completely demonstrated as yet, but "47.5% of the trees originally planted on the area have been killed, and of the remaining live pines on the plot, one-third are infected."

C. C. Perry, Massachusetts.

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AGENT THOMPSON SECURES COOPERATION

During the black-currant eradication campaign in Muskegon County, Mich., last fall, bushes were found on the premises of Mr. Harvey Lamb whose address is White, South Dakota. The caretaker gave this address to Agent Thompson, who immediately wrote Mr. Lamb inclosing a release slip and a cultivated black-currant eradication notice. Under date of February 1, a letter was received from Mr. Lamb giving us the authority to destroy his bushes and inclosing his signed release slip.

D. J. Stouffer, Mich.

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The fully stocked stand of pines is the worst enemy of Ribes, for shade is an enemy of Ribes.

E. W. Littlefield at New York Conference.

NOTES FROM THE NEW YORK CONFERENCE

Reworking Control Areas

The following figures collected in New York on the second working of control areas as compared to the original eradication should be of interest to the readers of the Blister Rust News. We see that in the Parsons Lot even after 7 years had elapsed between the first and second eradivative work, that only 5.6 Ribes were found to the acre, whereas in the original working of the area 43.1 bushes had been found.

J. W. Charlton cited the Parsons Lot in District 3:

	<u>No. of Acres</u>	<u>No. of Ribes</u>	<u>Aver. No. Ribes per Acre</u>	<u>Cost</u>
First working, 1923	118	5,086	43.1	\$118.07
Second working, 1930	142	798	5.6	48.58

(Between 1923 and 1930 the owners of their own accord had pulled some Ribes.)

W. F. Pratt cited one lot in District 9:

	<u>No. of Acres</u>	<u>No. of Ribes</u>	<u>Aver. No. Ribes per Acre</u>	<u>Cost per Acre</u>
First working, 1928	95	19,370	203.8	\$ 2.36
Second working, 1930	110	5,099	49.0	1.45

B. H. Nichols gave figures on the area and number of bushes where the area had just been reworked.

	<u>No. of Acres</u>	<u>No. of Ribes</u>	<u>Aver. No. Ribes per Acre</u>
First working	9,294	173,507	18.7
Second working			2.0

* * * * *

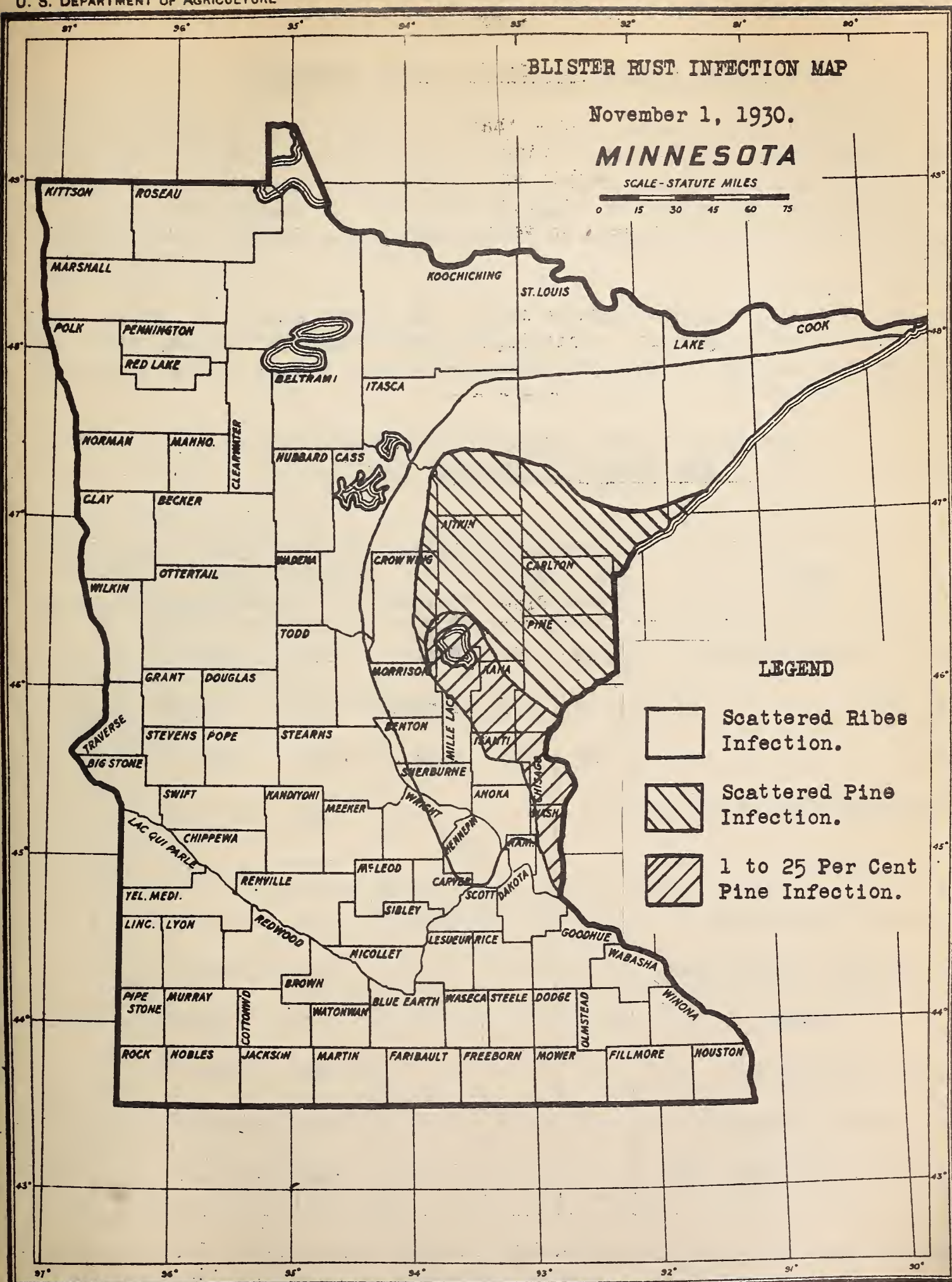
Lawyers Aid Black-Currant Work

H. W. Holcomb in District 10 spoke on black-currant eradication. In order to expedite the work and avoid needless controversy he first saw the lawyers of the village, told them of his prospective work of elimination of R. nigrum, explained the necessity of the work, showed them the law in the case, and then proceeded with the eradivative work. When people appealed to the lawyers for information, the lawyers, who were already conversant with the law, backed up our men in their work.

Two or Three-Man Crew vs. Five-Man Crew

Mr. Nichols favors a 2 or 3-man crew where the owner and his son or hired man assist in uprooting Ribes, even if they miss more bushes than a well trained State crew of 5 men. His reason is that when once trained in the identification of the various Ribes species, the owner frequently carries on eradivative work himself. However, there is considerable to be said in favor of the trained crew.

R. G. P.



RITTER WORKING IN ITASCA COUNTY, MINNESOTA

I am on a reconnaissance crew that is looking over prospective State forest lands. There is some white pine in this township. Most of our plots in Jack pine reproduction for example show about eight white pine to the acre. These stands are the result of logging and fire. A considerable number of white-pine seed trees are present so we can expect the amount of white pine to increase.

L. B. Ritter, Minn.

Edit: Mr. Ritter gives his address as SE, NE, S.29, T.60 N., R. 24 W. This to the uninitiated might be unintelligible but Ritter's abiding place was easily found on the map in the northeastern section of Itasca County, Minnesota.

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SOME DATA ON RIBES ERADICATION IN PUBLIC PARKS
AND FORESTS IN MICHIGAN, 1930.

Name	Acres For- ested	Acres White Pine	Planted or Native	Acres Worked	Wild Ribes Destroyed	Cultivated Ribes Eradicated
*Republic School Forest	80	50	Both	100	6,000	0
North Lake " "	5	5	Planted	115	500	15
*Felch " "	80	10	Both	100	8,400	0
Champion Beach Co. Park				200	63,795	0
Gwinn Co. Park				61	3,746	10
Ishpeming Tourist Park				115	1,601	0
Univ. of Mich. Plantations				130	15,235	0
*Y. M. C. A. Camp "				12	300	0
*Alpena State Forest				1,040	6,500	0
*Hardwood State Forest				70	23,674	0
*Hartwick Pines State Park				480	60,741	0

* Pre-eradication survey completed but initial control work not completed.

Data by D. J. Stouffer, Mich.

A LIST OF PUBLIC FORESTS IN MICHIGAN

Michigan agents have lately gathered some data regarding the various public forests, particularly in the Upper Peninsula. A number of these forests have just been started, while others are being planned. It is of interest to note that the school forests vary from $2\frac{1}{2}$ to 160 acres. The school forests particularly, and those belonging to the Boy Scout Camps and Y.M.C.A. Camps are a valuable field for educational work. White pines have already been planted on a number of these public forests and protection from the blister rust is being carried on cooperatively. It will be of interest to other agents in the Lake States to learn of the various types of parks and forests in Michigan. (See also preceding table). A list of these upon which no eradication work has been done is given below:

<u>Name</u>	<u>Acres Forested</u>	<u>Acres of White Pine</u>	<u>Planted or Native</u>
Baraga & L'Anse School Forest	--	--	--
City of Gladstone Forest	40	5	Planted
City of Norway Watershed	160	0	"
Cooks School Forest	40	5	"
Iron County Forest Reserve	160	5	"
Iron River School Forest	40	0	--
Ironwood Township School Forest	$2\frac{1}{2}$	$2\frac{1}{2}$	Planted
Kenton School Forest	160	15	"
Marquette Boy Scout Forest	5	5	"
Negaunee School Forest	40	10	"
Pendleton Chippewa Township School Forest	--	--	--
Stenglein Forestry Plot	5	2	Planted

Data by D. J. Stouffer, Mich.

WHITE-PINE BLISTER RUST AT PENNSYLVANIA STATE FARM PRODUCTS SHOW.

The Pennsylvania State Farm Products Show was held at Harrisburg the week of January 19th. A white-pine blister rust display was placed in conjunction with the exhibit of the State Department of Forests and Waters.

The blister-rust display was set up on a table to the left of the forestry exhibit. In the middle of the table, at the back, stood an enlarged, colored photograph showing a 35-40 foot white pine completely killed by the rust. On either side, towards the front, stood small pines about three feet high, one still green with a trunk canker and the other completely killed with three trunk cankers and about five or six branch cankers. Each canker on both trees was tagged with the regular red tag, "This is a Blister Rust Canker." On the table under the infected trees was a supply of bulletins and folders on blister rust and a number of specimens showing the cankers on pine.

The background panel above the table was about three feet high and five feet long. Near the top was the main sign, in letters five inches high, reading - LOOK - BLISTER RUST. On either side of this sign were posters (U. S. Government) with series of color plates showing successive stages of the disease and cycle of infection upon pines and Ribes. Samples of infected Ribes leaves were also displayed and in either lower corner of the panel were groups of test tubes with samples of infected pine preserved in alcohol.

The attendance for the week was estimated at 255,000.

R. P. Fatzinger, Pa.

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FORCING THE BLISTERS TO SECURE EDUCATIONAL MATERIALS

On the 23d day of December I dug up a white-pine tree by the roots and planted it in a wooden pail and placed it by a window in a warm room. The tree is nine years old and 32 inches in height. Its growth was retarded by the effect of a blister-rust trunk canker, coming in on 1925 wood.

The first aecia that I noticed on the infection was on January 5th. The fruiting bodies were just breaking through the bark on one of the branches. On January 7th I noticed that blisters were starting to break through the bark on the trunk of the tree.

My object for planting this tree in the house was to determine how long it would take to force the growth of the tree enough to bring on the aecial stage. In this case it took but 13 days to produce aecia.

I plan to use this tree for demonstration purposes during the remainder of the winter months.

H. G. Bradbury, Maine.

* * * * *

A second instance of "forcing" the blisters is related by Mr. W. O. Frost, Maine State Leader, who writes on January 5:

"I have an 8-year old white pine potted at this office (Augusta, Me.) showing several blisters, two trunk cankers and three branch cankers. Blisters broke through the bark January 1st. This is the second time I have forced the 'blister stage'."

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21. "Lazy men are as useless as dead ones, and take up more room. Shirkers get paid what they are worth."
22. "An ounce of loyalty is worth a pound of cleverness."
23. "The man of endurance is the man who wins."
24. "Think less about your rights and more about your duties."

MAINE PUTS UP REALISTIC BLISTER-RUST DEMONSTRATIONS AT FAIRS

Some life-size blister-rust demonstrations have been displayed at the Skowhegan, Ellsworth, and Bluehill Fairs that may interest some of the "News" readers.

We find that it does not pay to put up a small exhibit, finding that a space of around 30 x 25 feet is much better. The three mentioned exhibits were of this size, and as they contained trees of all sizes from 6 inches to over 30 feet in height, every tree infected, and every infection tagged, we attracted considerable attention.

Setting up such exhibits is no light job, as we have learned, especially if done on a rainy or windy day. First off, one must cut and drag out of the woods forty-five to fifty trees, about eighteen of which should be from 15 to 30 feet tall. The others can be of all sizes up to about 15 feet in height. At the same time it is desirable to gather and bag 12 gunny sacks of pine duff. Pine duff scattered to a depth of two inches is the finishing touch to any exhibit; the more woodsy, the better. A few pine cones scattered about; a large mossy rock or two, and a half-decayed pine stump, also helps out the natural effect. Next dig up a dozen Ribes plants of all native varieties. All these pine trees, bags of pine duff, and Ribes, make a large truck-load. After trucking to the Fair grounds comes the arrangement of the trees and Ribes. Arranging the trees is quite a job, especially if the wind is blowing, as up-ending 30-foot trees in a high wind is not the easiest thing for two men to do. Three men using long forked grey birches, forked at the top end, and used as line-men use their pike poles, is one means of doing this. The trees must be sunken into the ground about two feet, otherwise they tip over or soon attain a "cock-eyed" appearance. Once the larger trees are set the hardest part of the job is done, as arranging the smaller trees, Ribes, posters, and tags, is light work. Putting up the 15-foot and 12-foot Maine Forest Service and White Pine Blister Rust Demonstration banners, and the exhibit is ready.

Arranging a large exhibit cannot be done in a moment. It takes time and some preparation. In order to get the proper effect and have it look natural, one must plan and arrange his specimens to the best advantage. When one hears such remarks as these, "Why this is so natural I really thought it was growing here," he feels that he has really done well and feels repaid for his hard and sweaty work.

The bountiful use of the red and yellow blister-rust tags, folders, and "pickled" specimens of the aecial stage are sure to attract attention. Last spring Agent White coated with shellac several fine specimens before the blisters broke open. He also collected several vials of aeciospores. Showing these were a great aid in explaining the workings of the disease, and convinced the public that blister rust was not a bug trouble. For our purposes we find that an outdoor exhibit should be fairly large, and include trees of all sizes. The larger the tree, the more interest shown. Sometimes we even use specimens in the log to show that the disease really kills the larger sized trees.

W. O. Frost, Me.

FORESTRY FOR THE CHILDREN

The Pennsylvania Conservation Congress meeting at the Pennsylvania State College recently, formulated a program for the introduction of nature and conservation study in the public schools of Pennsylvania, the project to be tried out in Pennsylvania schools before an attempt is made to spread the movement to the rest of the States. The initial program as adopted by the Conservation Congress calls for a start of the child's education in nature in the kindergarten and its continuance through the grade schools to the junior high schools.

Since it is probable that some form of nature study is taught in all the blister-rust infested States, we could probably get some blister-rust control taught in the grade and high schools as a part of the general program of forest protection. The States of Minnesota and New York have already fallen in line, both having lesson plans on blister rust and its control for the use of the schools.

The Office of Barberry Eradication, which has had school lesson plans for the last 10 years or more in all of the States in the wheat belt, have recently put out an excellent mimeographed publication entitled "Protect Our Grain Crops from Black Stem Rust." The lesson plan is for the teachers in Nebraska and South Dakota and emphasizes the eradication of the common barberry. Copies of this publication are being secured from the Office of Barberry Eradication and are being sent to the State and District Leaders in the East.

R. G. P.

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RIBES HUDSONIANUM KNOWN IN MICHIGAN SINCE 1910

Professor J. H. Ehlers of the Department of Botany of the University of Michigan, writes under date of January 19th to the Washington Office concerning an article in the September 1928 number of the Blister Rust News, entitled "Hudson Bay Currant (Ribes hudsonianum) Discovered in Michigan":

"I would like to state for your information that Mr. D. J. Stouffer's collection of Ribes hudsonianum in Cheboygan County is not the first recorded for Michigan. There are in the Herbarium of the University of Michigan five sheets of Ribes hudsonianum collected in the State. Four of these represent collections by myself in 1921, 1922, 1923, and 1924, all from Cheboygan County. The fifth specimen was collected by Mr. C. O. Erlanson in Emmet County in 1924.

"While the presence of Ribes hudsonianum was known to the botanical staff of the University of Michigan biological Station at Douglas Lake in Cheboygan County as early as 1910 or 1912, the first published record appeared in 1924 in "An Annotated List of the Higher Plants of the Region of Douglas Lake, Michigan" - a paper by Dr. F. C. Gates and J. H. Ehlers. This list you will find in "Papers of the Michigan Academy," Vol. IV, 1924."

THE EFFECT OF ULTRA-VIOLET LIGHT ON GERMINATION OF SEEDS AND
GROWTH OF SEEDLINGS OF RIBES ROTUNDIFOLIUM MICHX.

Mr. S. B. Detwiler in a short article in the Journal of Forestry for January, 1931, gives the results of an experiment on the seeds of the round-leaf gooseberry, Ribes rotundifolium Michx., which were collected in forest areas in northeastern New York in 1927. Field studies by members of the Office of Blister-Rust Control have indicated that the removal of the forest canopy is frequently followed by the appearance of numerous Ribes seedlings. It was considered possible that this germinative activity was caused by the added sunlight, and suggested a laboratory study of this phenomenon. It was suspected that the shorter wave lengths of the spectrum were most active in this regard.

The experiment began May 3, 1928, and ended August 30, 1928. Three lots of 200 seeds each were treated in May, 1928, with ultra-violet light for periods of 5, 10, and 20 minutes, respectively. Three hundred seeds which were not treated were used as a check. Treated and untreated seeds were planted in pots in a Washington greenhouse in full light, and in pots placed outdoors where no direct sunlight penetrated. The visible effect of the exposure to the ultra-violet light was a pronounced retardation of the seedling growth from the treated seeds, the retardation in the case of those seeds treated the longest lasting practically 9 weeks. Of the treated seeds the complete germination was only 4.3%. 8.3% of the untreated seeds which were planted germinated. By August 30, 1928, the untreated plants were 3 to 7 inches tall; while the plants from treated seeds were 3 to 6 inches tall, or approximately the same as the others.

The experiment though not conclusive, gave no indication of ultra-violet light being the factor in stimulating germination of Ribes seeds in nature.

Reviewed by R. G. P.

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RIBES AND WHITE PINE ON MT. KATAHDIN, MAINE.

A recent publication in "Rhodora" states that one small specimen of white pine, P. strobus L.*, has been found on the floor of the North Basin of Mt. Katahdin at approximately 3,300 feet. This little tree was growing in the shelter of a rock in company with such plants as Vaccinium Vitis-Idaea, var. minus, Kalmia angustifolia, Vaccinium uliginosum and scrub birch. It appeared in flourishing condition and had much new growth.

Three species of Ribes were reported in 1901 by Fernald** growing on this mountain; he lists Ribes lacustre (Pers.) Poir. common, ascending the heads of streams; R. prostratum L'Her., common with the last; and R. rubrum L., variety subglandulosum Maxim., Great Basin, near the head of Saddle Brook.

* "Notes on Katahdin Plants" in Rhodora, December 1930.

** Fernald in "Vascular Plants of Mt. Katahdin," Rhodora, June 1901.

WHITE PINE IN THE JOURNAL OF FORESTRY FOR JANUARY, 1931.

Of particular interest to the readers of the Blister-Rust News will be the number of articles in the January 1931 issue of the Journal of Forestry dealing directly or indirectly with white pine. Extracts from these articles are given below:

Messrs. M. J. Plice and G. W. Hedden have an article on "Selective Girdling of Hardwoods to Release Young Growth of Conifers." They cite the work of the New England Box Company in girdling more than one hundred acres of mixed hardwoods and white pine in 1923, at Croydon Flats, New Hampshire. In order to improve the white pine, all hardwoods, except a few of the most valuable ones, were girdled. The white pine was cut in 1928 and stump measurements made by the writers in 1929 are given in a table to show the excellent effect of girdling in releasing the white pine.

Mr. Earle Stafford of the Massachusetts Department of Conservation writes on "Skeleton Planting." The author contrasts the typical white-pine plantations on State land in Massachusetts of say 1,200 trees to the acre with the experimental skeleton planting of white pine which is being carried on in the Swann Forest in southwestern Massachusetts. In this experiment only those trees are planted which form the ultimate stand, that is, about 300 trees to the acre. The author states that if we wish to cultivate the white-pine weevil on an extensive scale we could probably do no better than grow pure white pine from 4 to 6 feet apart on exhausted fields.

Even in the article on "Current Growth in Norway Pine" by T. Schantz-Hansen reference is made to the white pine that were in the two-acre plot at Cloquet Forest from which the data for the article were gathered.

Dr. W. H. Snell has an article dealing directly with the white pine, namely, "Forest Damage and the White Pine Blister Rust." This is a study made in 8 different plots in New York State. This article will be of particular interest to the blister-rust control workers.

Mr. E. F. Brouse presents the results of Pennsylvania's tree planting program in "Distribution of Forest Planting Stock in Pennsylvania." The average number of trees in all the plantations examined is approximately 5,600, whereas those established during the past 2 years and examined average approximately 10,000 trees. Over 83,000,000 forest trees have been distributed by the Pennsylvania Department of Forests and Waters to private individuals and corporations throughout the State. While Mr. Brouse did not mention the white pine as being one of the major species planted in Pennsylvania, figures in the Office of Blister-Rust Control show that of 94,000,000 trees distributed between 1918 and 1929, over 25,000,000, or 26.7%, were white pine.

Mr. C. R. Anderson in writing of the "Ten Years' Forestry Extension Work in Pennsylvania" has one paragraph for white-pine weevil work and one

for blister-rust control work. He writes:

"The white pine weevil work is of interest. It is handled by the Extension Entomologists of the College under the direction of H. E. Hodgkiss. Practically all the plantations, containing white pine which are on our list of permanent demonstration areas, and which are old enough for the weevil to develop, are followed up from year to year. ****.

"At the end of the 10-year period the white pine blister rust work had just been started by Extension Pathologist R. S. Kirby. His reports for the calendar year 1929 show a number of meetings held with a gratifying interest in this problem."

Mr. R. R. Fenska in an article on "Impressions of European Forestry" writes concerning the white pines in Europe in relation to the blister rust:

"Our white pine (*P. strobus*) over there has been severely hit by blister rust and is no longer being planted. Specimens of the Balkan white pine (*Pinus peuce*) have so far been immune from blister rust and more experiments will be carried on with this species. The wood is similar to that of our own Eastern white pine and growth is fairly rapid."

Under the heading of "Reviews" appears one short article on "Forest Research in Switzerland," in which is mentioned a study on the culture of white pine. Mr. Gisborne, our reviewer, writes:

"The third study in the Swiss publication, 'The Culture of Weymouth (White) Pine,' is reviewed by N. I. Crahay, who adds several comments from the point of view of the Belgian forester. Pinus strobus was first introduced into England, from America, by Lord Weymouth in the year 1705, then gradually into all European countries. The blister rust is rated as its principal enemy, although there is quite a long list of fungi and insects which also attack it. The growth is so good, however, and the quality of the wood so fine that both M. Badoux and M. Crahay strongly recommend its continued culture.

"The Swiss report dwells by chapters upon the distribution of this species in Switzerland, the experimental plots being used to study the species, its height and volume growth - 42 metres at 110 years, its demands upon and accommodations to different soils, the climate that is most favorable, the characteristics, uses, and prices of the wood, and the enemies of the species. Badoux emphasizes the importance of cleanings and thinnings, while Crahay stresses the value of mixture of species, especially the production of a dense understory of either hardwoods or conifers as one defense against the blister rust. Crahay calls attention to the control of Scotch pine rust by the use of Bordeaux mixture and anticipates the development of a similarly successful treatment for the white pine blister rust."

There is also reviewed the Research Bulletin No. 98 of the University of Wisconsin Agricultural Experiment Station, by S. R. Gevorkiantz and Raphael Zon, on "Second-Growth White Pine in Wisconsin: Its Growth, Yield and Commercial Possibilities."

"Idaho Declares War on Blister Rust" is the title of a short article.

"Thoroughly aroused over the alarming rapidity with which the white pine blister rust has spread in the western white pine region, the state of Idaho, the federal government and interested private timberland owners have entered into a program of control work involving the expenditure of approximately \$6,000,000 within the next ten years."

In a short note on "New England's Forest Resources" it is stated that more than 75% of the virgin timber remaining in New England is spruce, fir, white pine and Norway pine.

R. G. Pierce.

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STUDY PLOTS IN PLYMOUTH COUNTY DEMONSTRATE EFFECTIVENESS OF CONTROL

With the assistance of Agent Hodgkins, several plots in the towns of Norwell and Scituate in Plymouth County, Massachusetts, were revisited recently. These plots were marked out in 1924 when initial control work was under way in these particular areas. On January 2, 1931, many dead trees were found and numerous others will pass out of the picture within a few months. No cankers originating subsequent to the eradication of Ribes could be found.

In 1924 the areas were well populated with large gooseberry bushes. These were eradicated by the owner of the property and the area was subsequently checked by the agent and scouts. It was very gratifying to see this area again, because it so clearly demonstrates the effectiveness of good control work.

E. M. Brockway, Massachusetts.

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NEW PINE INFECTIONS FOUND IN RHODE ISLAND

Messrs. Hodgkins and Hurford turned up some new blister-rust infections in Rhode Island, January 28-30. These are given below:

West of Chepachet, 1 pine with 2 infections dating to 1926.

Providence-Scituate Reservoir Watershed, 1 pine with trunk canker dating to 1921.

Barrington, infection area, several pines, dating from 1919.

EXTENSION FORESTRY SUCCEEDING IN PLYMOUTH COUNTY, MASSACHUSETTS.

In the spring of 1930 the agricultural agent of the Plymouth County Extension Service, sent a circular letter to the woodland owners in the towns in that county. Incidentally, the blister-rust control agent was instrumental in furnishing the county agent with the majority of the names on the list. This letter informed the owners about the existing conditions in various woodlots in the county, and commented on what should be done with them and the advantages that would accrue from putting scientific forestry principles into practice. A return card was enclosed for the owner to fill out and send back to the extension service office. On the return card, provision was made for the owner to state how many acres he had thinned or how many acres he had pruned, and whether or not he would like to have a call from the extension forester. Over 80% of these cards came back.

During the week of December 7, 1930, the blister-rust control agent was asked by Extension Forester Parmenter, and County Agricultural Agent Dayton, to accompany them on a series of trips to visit some of the owners who had returned the report cards. In calling on these owners many interesting things were disclosed. The most important point, at least from the blister rust agent's standpoint, was the unusual interest displayed regarding blister rust. Almost every owner inquired as to the status of the disease and its control. Next in importance came the actual results that the owners had accomplished in their woodlots. To cite just a few:

An owner in Plympton had thinned 75 acres and pruned 15 acres. This is a lot worthy of a visit by any forester. The owner is proud of the property, and he has done the work himself in his spare time.

In the town of Wareham, an owner had planted 35 acres to white pine 7 x 7 twenty-five years ago. This lot was pruned several years ago and is now being thinned. The owner possesses 500 acres and is managing all of it. He will take out his book and prove to you that his woodlot is earning him 15% on his money.

In Bridgewater, a Mrs. Johnson has thinned and pruned 15 acres. Last winter she opened up the stand in certain spots to obtain and encourage reproduction. This particular place was used as a corn field thirty-five years ago. Trees cut last winter measured 22" D.B.H.

Another owner in South Middleboro, is opening up his various stands to let reproduction come in. This owner gets \$12.00 per cord delivered at the mill about four miles away.

These are but a few of the many examples of forestry practices that are being followed in the county. The importance of available markets seems to be foremost in the mind of every owner. This applied to hardwoods and softwoods alike. In the past, there has always been a very good market for cordwood. At the present time owners who formerly cut 350 cords a season, are only cutting 100 cords. Brickyards formerly used 1200 cords a year, but now they use a mere 200. The answer, of course, is that the gradual installation of oil burners has materially affected the demand for cordwood. As to white pine, owners seem to feel that the future is bound to be brighter, and that if pine is pruned, it will bring materially better prices.

It was interesting to find that many of the owners called on were those who had attended the demonstrations held last winter. This tends to show that demonstrations are important, and it is expected that more will be held this winter.

In order to obtain a more complete record of the names of owners who are applying forestry principles in the management of their woodlots, the Massachusetts blister-rust inspectors will be instructed during the 1931 field season, to be on the lookout for all woodlots that are being improved. This will assist the extension forester in measuring the results of his efforts.

January 21, 1931.

E. M. Brockway, Massachusetts.

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BLISTER-RUST CONTROL AT "HEARTS CONTENT",
ALLEGHENY NATIONAL FOREST.

Mr. Filler's report of a reconnaissance of the Hearts Content Area in Warren County, Pennsylvania, is at hand.

Initial work on this Forest Area was carried on from April 17 to May 17, 1929, and the work was checked by Mr. Filler July 6-8, 1930. The original Ribes eradication was carried on by an experienced foreman with a new crew. On the whole the work was average, as showed by the check. Only in 3 units were the bushes too abundant to rate the work as good. Herein lies the lesson for us all. These particular blocks were worked too early in the season, before all the Ribes were in leaf. Consequently the new crew men missed the bushes without leaves though the dead bushes which were seen hung in the brush and on fences showed that many leafy bushes had been pulled. The bushes were R. rotundifolium.

Though the initial control work was sufficiently effective to give commercial protection to the pines, it is desirable to establish and maintain at Hearts Content as nearly complete control of the disease as practicable. It is necessary therefore to do more thorough control work than under ordinary conditions. Even in portions where the initial control work was performed very effectively in 1929, many Ribes seedlings, too small to be seen at that time, had become large enough by July 1930 to be readily visible and a source of danger to the pines.

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Mr. S. B. Detwiler has a review in the Journal of Forestry for January 1931, p. 109, of a recent book by Dr. Ernst Artschwager entitled "Dictionary of Biological Equivalents." This dictionary will be of particular value in accurately translating German biological literature into English.

CLEARWATER TIMBER PROTECTIVE ASSOCIATION COOPERATES
IN BLISTER-RUST CONTROL WORK IN IDAHO*

During 1929 and 1930 the Association has continued its cooperation with the Bureau of Plant Industry of the United States Department of Agriculture in blister rust control work. ***. In 1929, when it became apparent that the disease was firmly established in this region the actual control operations were undertaken. This control work consists of the systematic eradication of wild currants and gooseberries (Ribes) from the Association lands bearing white pine. According to the plan of work proposed by the Bureau of Plant Industry this eradication work for the first few years has been confined to the stream bottoms where the most dangerous Ribes occur in the greatest numbers. ***.

Infection of white pines by white pine blister rust seems to have first occurred in north Idaho in 1923. Several small local centers of pine infection were then formed. In 1926 and 1927 the disease began to spread locally from these small centers, and it is estimated by the technical personnel of the Bureau of Plant Industry that in 1931 a still further spread will occur. At the present time five centers of pine infection are known to exist within the boundaries of this Association and one other center is so near to its boundaries as to constitute a similar danger to the white pine within the Association. In the opinion of the technical personnel of the Bureau of Plant Industry, blister rust control operations within the boundaries of the Association must be materially hastened if the purpose of the control program is to be achieved. This increase of work is necessary in order to keep up with the inevitable spread of the rust through the Association lands. If the control program is not moved ahead at the requisite rate, serious pine infection and consequent later damage to our pine stands is to be expected. It appears from the technical reports upon this matter that the eradication of Ribes from the stream bottoms within the Association should be completed within at least two years and that this should be followed by a secondary eradication or "mopping up" in these stream bottoms and also the eradication of Ribes from all portions of the white pine lands in the Association as rapidly as this work can be done. Similar control work is under way upon the Clearwater National Forest and the Potlatch Timber Protective Association, lying respectively east and north of this Association. Their work will be of assistance in protecting pine values within this Association, by preventing the formation of heavy centers of pine infection near by.

S. N. Wyckoff

* Extract from "Cooperative Blister Rust Control Work" in the Twenty-Third and Twenty-Fourth Annual Reports of the Clearwater Timber Protective Association, 1929-1930.

NURSERY SANITATION WORK IN NEW YORK

Mr. George Paige of the New York Conservation Department and Dr. S. B. Fracker, Plant Quarantine and Control Administration, inspected a nursery at Newark, New York, on October 30. They were particularly interested in checking up Mr. Paige's Ribes eradication work which was carried on in the vicinity of the nursery. The nursery is growing white pine under sanitary conditions prescribed in Regulation 2(d) of the blister-rust quarantine, 500 pounds of white pine seed having been sown in the nursery in 1929.

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THELEPHORA LACINIATA ON WHITE PINE

Heavy damage was caused to white pine (Pinus strobus) and Norway spruce (Picea excelsa) seedlings in a State forest nursery by Thelephora laciniata. The stems were smothered by a compact mass of mycelium, light brown at first with a cream-colored margin, but becoming darker as it extended over the needles. The lower needles were covered with the irregular, nearly black fructifications.

(Extract from "Forty-Eighth Annual Report of the Ohio Experiment Station for 1928-29," Ohio Agric. Exper. Sta. Bull. 446.)

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DASYSCYPHA AGASSIZII ON PINUS STROBUS

Mr. Littlefield of New York has called our attention to Dr. Snell's article of the above title, which appeared in "Mycologia" in 1929 in the September-October issue. Dr. Snell writes:

The usual host of Dasyscypha agassizii appears to be Abies balsamea. It seems to occur more frequently upon white pine than upon any other host except balsam fir. It was found in considerable abundance at Dannemora, New York, in 1927 as a secondary fungus on blister-rust cankers and also to a lesser extent on white-pine bark not infected by Cronartium ribicola. On this plantation 103, or about 10 per cent of the blister-rust cankers were invaded by secondary fungi and upon 78 of these 103 Dasyscypha agassizii were fruiting abundantly (see opposite page). Search was made for this fungus on white pine elsewhere in 1927 but it was found only in the writer's Kelm Mt. plot near Warrensburg, New York, and not so abundantly there.

In 1928, however, further search revealed it in very small amounts on the following experimental plots in New York: Horicon at Horicon; Burdick near Warrensburg; Harkness, Downes and McCormick near Keeseville, and Sternberg near Central Bridge.



Dasyscypha agassizii on white pine, Pinus strobus.

Photograph by Dr. W. H. Snell.

INTERESTING BULLETIN PUBLISHED ON THE WHITE-PINE WEEVIL

We wish to call the attention of the blister-rust control workers to Bulletin No. 29, recently published by the Yale University, School of Forestry, entitled "Control of the White Pine Weevil on the Eli Whitney Forest." This bulletin presents in a very interesting manner the results secured on the Eli Whitney Forest in Connecticut in controlling the serious forest pest known as the white-pine weevil, Pissodes strobi Peck. It is stated that while the weevil has always been of importance, the widespread forest planting in Connecticut during the past 3 decades has increased the damage to such an extent that the problem has become acute. The establishment of so many pure stands of white pine has also afforded food for the weevil, thus enabling it to multiply. Since the weevil has been the chief pest injuring the white-pine plantations on the Eli Whitney forest, which now comprises over 20,000 acres, a system of controlling it was sought and successfully developed.

Control work was initiated in 1919 and is still systematically practiced. The weeviled tips are removed and then burned to kill the new broods of weevils which are developing within them. The work is done each year for a period extending from the time the plantation is first infested to the time when the side branches of the trees come together or, in other words, until the plantation closes. This period averages about eight years. Control work is stopped when the stands close, because the trees are then so tall that the work is difficult and too expensive to be practical. Moreover, weeviling subsequent to the time the stand closes is not sufficiently injurious to the form of the tree to necessitate control work. The annual cost of the work has been approximately 60 cents per acre per year, and the total cost over the entire period during which the operation is carried on in any one stand has averaged about \$5.00 per acre.

Interesting descriptions of these control methods, accompanied by illustrations, are given.

During the summer of 1930, the author of the bulletin, Mr. Wm. Maughan, Instructor in Applied Forestry at Yale University, made an investigation to learn the actual results of the control work. These results showed that the weevil can be controlled on certain sites. The removal of infested tips brings about a marked reduction in the amount of infestation evident during succeeding years. The reduction first becomes noticeable the second or third year after the work is started. In the stands in which treatment has been completed more than enough acceptable stems have been secured on the medium and better sites. On the poorer sites enough acceptable stems are not secured even though the stands are treated.

Hence it is stated, weevil damage as an argument against the planting of white pine on the better sites can no longer be sustained. Planting of the tree on such sites is advised. It is felt that the advantages to be secured from the use of white pine will justify the additional cost of protecting it against the weevil. On the poorer sites some other species, such as red pine, should be used.

The price of this bulletin is 35¢. Those desiring copies may secure them by applying to the School of Forestry, Yale University, New Haven, Connecticut.

H. T. W.

FOREST SERVICE PURCHASES

The Forest Service purchased 417,000 acres of forest land this past year, the purchases being confined to the eastern half of the country. Most of the lands purchased have been cut-over, but have forest demonstration value. The organized forests are found to have a salutary effect on local economic conditions, becoming a source of employment during off seasons, according to the commission's report. To meet the needs for replanting some of the cut-over lands, the Forest Service nursery at Parsons, West Virginia, is being enlarged beyond its present capacity of 2,000,000 trees a year.

The Office of Blister-Rust Control has been cooperating for the past 3 years with the Forest Service in the elimination of the Ribes around the Parsons Nursery, where white pines are being raised with other species.

In the Lake States nine forest purchase units have been established. The Lake States have large problems of handling millions of acres of cut-over lands and abandoned farm lands and of holding industries within many of their communities. The areas of forest lands in the Lake States approved by the National Forest Reservation Commission in the fiscal year 1930 are Michigan 50,071 acres, Minnesota 29,418 acres, and Wisconsin 161,910 acres.

White-Pine Survey on Keweenaw Purchase Unit, Michigan.

Our blister-rust control agents in the Lake States should be and probably already are in touch with these new purchase units. In this connection Mr. Stouffer of Michigan writes on January 17, 1931, that Mr. Geo. D. Ferrari has just completed a pine survey in the Keweenaw Purchase Unit which is located in Iron, Ontonagon and Houghton Counties. A short summary of the estimated white-pine acreage in this unit is given below:

	<u>Acres</u>
1. White pine (70 to 80 years old)	1,020
2. Open patches of white pine (with patchy reproduction)	4,240
3. Partly cut-over white pine stands (70 to 80 years old)	5,640
4. Mixed white pine and red pine (40 to 60 composition)	3,200
5. Young white pine (15 to 25 years old)	1,400

R. G. P.

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BLACK-CURRENT ERADICATION WORK IN MICHIGAN.

While approximately 23,000 bushes of the cultivated black currant have been destroyed in the past two years, there still are a few R. nigrum left in 10 locations in the areas worked. Arrangements have been made to remove bushes in 6 of these locations. Cooperation was only requested in 4 cases.

D. J. Stouffer, Mich.

A M O N G O U R S E L V E S

Mr. J. D. Kennedy has resigned from the Extension Department of the New York State College of Forestry, Syracuse University, to become a District Forester in New York State. Mr. Kennedy was connected with the Office of Blister-Rust Control from 1923 to 1928. We wish him success in his new work.

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Mr. J. M. Palmer was temporarily transferred January 17th to the field service of the Farmers Seed Loan Office as Temporary Special Disbursing Agent, with headquarters at St. Louis, Missouri.

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Dr. Ray R. Hirt visited Washington the latter part of January to confer with members of the Office of Blister-Rust Control. Agent N. H. Harpp of New York also visited the Washington Office the latter part of January.

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Mrs. Nellie Acton has received a temporary appointment as Junior-Clerk Stenographer in the Washington Office, effective January 21.

Duck Hunting Season is on in Maryland

The exponents of the "Gun and Blind" in the office tried their luck, but we didn't see any major results.

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Notes from Massachusetts

At the annual business meeting of the Boston U.S.D.A. Club, held on December 17, 1930, State Leader Perry of Massachusetts was elected to the office of Assistant Secretary. We are glad to have the blister-rust personnel represented in this way.

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Notes from Michigan

Messrs. Ferrari and Kroeber are working in cooperation with Mr. Rood, Boys and Girls Club Leader for the Upper Peninsula, on an education project for 4-H Clubs and especially the Forestry Clubs of which there are about a dozen.

OFFICE COMMENT

COMPENSATION - DISMISSALS

Where a civil employee of the United States in the custodial service was dismissed for having forcibly entered a Government storeroom and unlawfully removed therefrom a quantity of Government property, his claim for unpaid salary, which otherwise might have accrued to the date of his dismissal, is of too doubtful validity to warrant payment by any administrative or accounting officer of the Government. (A-32978) 10 Comp. Gen. 198.

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TRAVELING EXPENSES - DUTY EN ROUTE TO FIRST DUTY STATION

A newly appointed employee required to perform temporary duty before reporting to his first official duty station may be reimbursed for additional subsistence and transportation expenses incurred by reason of such temporary duty, including, if administratively authorized, a per diem in lieu of subsistence expenses for any additional travel time involved and for the temporary duty only to the extent that the expenses incurred are in excess of the expenses which would have been incurred by the appointee in going directly from his home to the place fixed as his first post of duty. (A-33148) 10 Comp. Gen. 222.

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TRAVELING EXPENSES - AIR TRAVEL - RECEIPTS

Where official travel is made by airplane instead of by cheaper means of transportation, reimbursement therefor, in the absence of a showing of an actual emergency, may not exceed the cost of railroad and Pullman fares between the points involved.

In the absence of a receipt or other evidence showing the amount actually spent for transportation expenses, reimbursement is not authorized. (A-33637) 10 Comp. Gen. 201.

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LEASES - RENEWAL

Where the Government entered into a lease agreement for the occupancy of space in a building in the District of Columbia covering one fiscal year, with option to renew at the same rental upon the expiration thereof, conditioned upon the giving of 30 days' notice in writing to the lessor of intention to renew, there must be a definite declaration of intention to renew within the time specified, notice that the Government "in all probability" would desire to continue occupancy not being sufficient, and the failure to give such notice precludes the renewal at the old rental, if objected to by the lessor, and payment on a quantum meruit basis as for a tenancy by sufferance from month to month is authorized for the period between termination of the old lease and the effective date of a new lease. (A-33930) 10 Comp. Gen. 236.

CONTRACTS - ADDITIONAL PAYMENTS

Where a contractor certifies as correct and just a voucher for material delivered and accepts payment without any suggestion that he believes he is entitled to a greater payment, he may not, after the expiration of approximately two years, secure an additional payment on the ground that he misconceived the contract terms. (A-33990) 10 Comp. Gen. 231.

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CIVIL SERVICE EXAMINATIONS

The attention of this Office has recently been called to Executive Order dated October 13, 1905, regarding the instruction of persons who contemplate taking Civil Service examinations. The Executive Order reads as follows:

"No officer or employee of the Government shall, directly or indirectly, instruct or be concerned in any manner in the instruction of any person or classes of persons, with a view to their special preparation for the examinations of the United States Civil Service Commission.

"The fact that any officer or employee is found so engaged shall be considered sufficient cause for his removal from the service."

Feb. 10, 1931.

H. P. Avery.

P U B L I C A T I O N S

Blister Rust

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Filler, E. C. Blister-Rust Control Makes Progress in Protecting White Pine. U.S. Dept. Agr. Yearbook (1929) 1930; p. 140-141.

Snell, Walter H. Forest Damage and the White Pine Blister Rust. Journal of Forestry for January, 1931, p. 68.

Wyckoff, S. N. Cooperative Blister Rust Control Work, in the Twenty-Third and Twenty-Fourth Annual Reports of the Clearwater Timber Protective Association, 1929-1930.



THE BLISTER RUST NEWS



March, 1931.

Volume XV

Number 3

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
OFFICE of BLISTER RUST CONTROL

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R - R U S T N E W S

Issued by the Office of Blister-Rust Control
and Cooperating States

Vol. 15, No. 3

March, 1931.

THE SOCIETY OF AMERICAN FORESTERS ADOPTS BLISTER-
RUST CONTROL RESOLUTION.

At the annual meeting of the Society of American Foresters held in Washington, D. C., during the Christmas holidays, there was adopted the following resolutions:

WHEREAS, White pine blister rust has invaded the western white pine forests of Montana, Idaho and Washington, and has spread to the sugar pine region of southern Oregon thus threatening the large sugar pine stands of California, and

WHEREAS, This destructive disease can be effectively and economically controlled only by local eradication of currants and gooseberries in and adjacent to white pine and sugar pine stands, but to be effective, control methods must be applied before the stands become heavily diseased, and

WHEREAS, Western white pine is found to be so highly susceptible to rust infection that experts estimate that not to exceed ten years remain in which to apply control methods in Montana, Idaho and Washington, and

WHEREAS, The major acreage of the threatened timber is in national forests and the task of protecting these forests and adjacent state and private holdings within a short period of years is so great that it can be done only through aggressive action of the federal government in protecting its own timber and through government leadership in the protection of state and private timber resources,

NOW THEREFORE, Be it resolved that the Society of American Foresters urges upon Congress, the States and private owners such appropriations as will make possible immediate and adequate steps to control the disease, and believes that liberal appropriations for this purpose would be doubly valuable at this time in that they would give employment to large numbers of men out of work.

(Extract from the "Journal of Forestry," February, 1931.)

EXTRACTS FROM THE ANNUAL REPORT OF BLISTER-RUST
CONTROL WORK IN MASSACHUSETTS, 1930.

Infection on Ribes

Generally speaking, infection on Ribes was relatively light, due do doubt to an almost unprecedented dry season. It is of interest to note, however, that in practically every instance where heavier infection was reported, diseased pines were always present nearby. As was to be expected, specimens of Ribes nigrum were invariably heavily diseased. The scarcity of infection on Ribes was due in large measure to the fact that much of the control work was under way in districts where pine infection is decidedly rare or at least young and not "fruiting" heavily. The most intense infection on wild Ribes seems to have been on Ribes cynosbati in the towns of Warwick and Orange in the Franklin County District (VII).

News Items

Agent Doore has been particularly active in the endeavor to maintain the reputation of his predecessor in the Berkshire district (Agent Endersbee) in furnishing the local press with suitable news. With the assistance of the State Leader, a series of eight articles was prepared. These were taken for the most part from the Massachusetts Manual for Field Men. The general purpose of the series was "to lessen the confusion in the public mind between blister rust injury and damage to pine by other diseases and by insects." These articles were released one a month, and were quite generally published and reprinted throughout western Massachusetts. These items with others concerning specific localities accounted for 330 column inches of news in the combined districts. Publicity of this character is most helpful, but it must be handled "with a care".

Initial Control Work

The combined control work of the year involved the initial examination of 108,683 acres of white-pine producing lands and areas adjacent thereto. On these holdings 996,376 wild and 8,072 cultivated Ribes were found and uprooted, at an average per acre cost of 14 cents. The 614 cooperating property owners, including three State departments, provided the equivalent of \$15,171.25 of the total amount expended.

General Status of Initial Control Wor.

Except for small areas where it has been impossible to secure the cooperation of property owners, the requisite initial eradication of wild Ribes is complete in District I (Essex), District III-IV (Southeastern) District VII (Franklin-Hampshire), and District VIII (Hampden-Hampshire). In District II (Middlesex) work will be required in the entire town of Ashby. In District V (Worcester-South) control work is now deemed essential in the town of Southboro, because of the finding of scattered pine infection in the extensive watershed plantings on the lands of the Metropolitan District Water Supply Commission. In District VI there are areas in the skunk-cur-

rant region in the towns of Ashburnham, Royalston, and Winchendon which have never been completely protected because of the prohibitive cost of control work. In addition, initial work must be completed in the towns of Barre, Holden, and Lancaster. In District IX (Berkshire) the initial work is practically complete, although some additional work may be required in the townships of Hancock, New Ashford, Pittsfield, and Lanesboro.

Reeradative Work

In the combined reeradative projects throughout the State, including work on State-owned lands, examinations were made on 28,108 acres of land, on which 27,995 wild and 83 cultivated Ribes were found and destroyed, at a total per acre cost of 10¢.

Edit.:—From the figures above it is shown that the Ribes numbered 9.2 bushes per acre, including both wild and cultivated in initial eradication work, while in the reeradative work the bushes averaged but 1.0 per acre.

Black-Currant Elimination

No serious opposition was encountered in the prosecution of the black-currant eradication work, and Agent Brockway in particular is to be commended for the efficient and effective way in which he planned and supervised this initial drive on this project in Massachusetts. Gratifying cooperation was received from owners in Agent Brockway's district. It is worthy of note also that countless numbers of individuals advised that they once had black currants under cultivation, but had destroyed them upon learning by means of blister rust displays, news items, radio talks and the like, that this variety of Ribes was particularly dangerous. This is interesting testimony to the value of publicity of this type.

Removal of Cultivated Ribes

The field force was favored with an unusually friendly spirit of cooperation in the removal of cultivated Ribes during the 1930 season. This was especially true with regard to the black-currant project, due in some measure perhaps, to the fact that the owners seemed to realize the danger involved in the further cultivation of this variety of Ribes. It is interesting to note that out of a total of 1,907 property owners, 43.9% of the number removed their own Ribes. These cooperating owners were in possession of 36.9% of the total number of cultivated Ribes removed.

Blister-Rust Regulations

The departmental (State) order forbidding the further planting of Ribes in certain townships (blister rust control areas) in the State, was amended on February 27, 1930. This order now forbids the further planting of Ribes in 210 townships in Massachusetts.

Report by C. C. Perry.

DISTRIBUTION OF BLISTER-RUST PUBLICATIONS
FOR USE IN RURAL SCHOOLS

During the months of March and April, 1930, there was a distribution of some three hundred publications made to rural schools in Essex County, New York. These consisted of "Lesson in White-Pine Blister Rust Control, Bulletin 17 of the New York Conservation Department, by H. L. McIntyre, Supervisor of Forest Pest Control; and Miscellaneous Publication No. 22, by J. F. Martin of the Office of Blister-Rust Control in Washington, D. C.

Thirty-one schools were visited. In all cases except one, teachers were pleased to get this material for nature study work, especially when informed that they could find blister rust close by in most cases.

We have no concrete results to show we received any help in the past season's work in seeking cooperation for eradication but have met many of the children and found they were familiar with blister rust and the control method now used.

I would advise giving out these publications in the spring of the year, as near the time of the aecial stage of the blister rust as possible, since this stage seems to appeal to people more than any other.

There are nearly as many schools yet to be visited in my district as have been covered. I am planning to use the same publications this spring.

March 2, 1931

B. H. Nichols, N. Y.

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BLISTER RUST OUT EARLY ON PACIFIC COAST

White-pine blister rust is fruiting earlier on the Pacific Coast this year than any time since records were kept. Mr. S. Edward Paschall, Bremerton, Washington, reported the first aecia visible March 1, fifteen days earlier than in 1930.

Mr. Paschall has on his ranch one of the best known infection areas on the coast and keeps a close check on the activities of blister rust there. In 1928 the first aecia appeared on March 19, while in 1929 the first appearance of the pustules was noted on April 7.

As yet the Newman Lake infection area near Spokane, Washington, is blanketed with snow and it is unlikely that aecia will appear for several weeks at least.

The Western Office of Blister-Rust Control is indebted to Mr. Paschall for information as to rust conditions in the vicinity of Bremerton. Each year a supply of blister-rust specimens is collected on and near the Paschall ranch area and the information sent in by Mr. Paschall makes it possible to arrive on the ground at the right time to get the best specimens.

March 3, 1931.

Kermit Miller, Western Office.

KING OF NEW HAMPSHIRE USES CIRCULAR LETTER TO
AROUSE INTEREST IN BLISTEER-RUST CONTROL.

March 4 1931

Dear Sir:

In order that you might have available some of the facts concerning the control of White-Pine Blister Rust in Northfield, I am forwarding them to you herewith.

We have so far examined 7,860 acres and destroyed 75,513 currant and gooseberry bushes. We continued to find a heavy distribution of infection on pine. Several impressive infection centers were located, one near the Reservoir and two on Bean Hill section. It is safe to say that had protection been deferred there much longer, severe losses would have been sustained by the owners. The impressive thing about all this is the fact that if control measures had been applied at the proper time these conditions would not now exist.

The need of completing this control work as soon as possible is becoming generally more and more evident as years pass. We are continually discovering new centers of damage by Blister Rust in sections from which the currant and gooseberry bushes have never been removed. I wish it were possible to adequately portray the picture of Blister Rust as we have seen it spreading throughout the State and especially in towns where little has been done in its control. We are anxious, as you are, that such conditions shall not become general. It should also be borne in mind that this protective work is not merely for the present but has an important bearing on the future. Consequently, it is important that this vital work be continued this year in your town. It is expected that the State will increase your town's appropriation 25 per cent as in the past.

It is my sincere hope that the control program may be continued in Northfield this year on a voluntary basis. Your cooperation will be appreciated.

Very truly yours,

Thos. J. King,
Blister-Rust Control Agent.

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The American Nurseryman for February 1, 1931, has a brief article "Against the Black Currant" stating that the U. S. Dept. of Agriculture recommends that the growing of the European black currant be discontinued in all the white-pine growing States.

BLISTER-RUST NOTES FROM CONNECTICUT

Weather Conditions

An unusual amount of snow and cold weather has greatly hampered our field studies this winter. At the present time (March 9) the ground is clear of snow in southern Connecticut, but the northern part is still pretty well covered. We are all hoping for an early spring.

Status of Control Work

Initial eradication of Ribes within infecting distance of pine is nearly complete and we are now planning systematic reworking of the areas where the early initial work was done. Some of it is badly in need of attention.

Future Work

Plans for this summer call for special emphasis on nursery sanitation, black-currant elimination, and cultivated Ribes eradication within town-wide control area.

Results of An Infection Study

A study has been completed this winter in the town of Salisbury to determine infection conditions. The results indicate that approximately 24% of the pine under 20 feet in height are infected. The original eradication was done in 1922 and 1923 with some work in subsequent years. Complete protection strips were not establish around all pine areas and not over 50% of the cultivated Ribes in the town were removed. Recent infections indicate that Ribes are becoming reestablished on the previously eradicated areas and this fact, coupled with the inadequacy of the protective zones and the incompleteness of the cultivated Ribes elimination, accounts for the large amount of cankers present. The study has served to emphasize the necessity of adequate protective zones under Litchfield County conditions and has helped to instigate a more adequate cultivated-Ribes policy for Connecticut.

The seriousness of the present blister-rust situation in Salisbury has been discussed with pine owners and town officials and a meeting of pine owners is to be held this month to consider a plan of cooperative reeradication work proposed by the Connecticut Agricultural Experiment Station. If the expected financial support materializes, the reeradication work will be done this summer.

* * * * *

An infection study has been made in Canaan and North Canaan but the data has not yet been completely assembled.

New Policy Concerning Cultivated Currants

As a result of a new cultivated-currant policy, blister-rust control areas are to be declared coincidental with town boundaries for those towns in the natural white-pine areas of the State. Such areas will not all be declared immediately. North Canaan and Norfolk will be declared this spring and if our plans work out as we hope, the following towns will be added this summer: Salisbury, Canaan, Colebrook, and Cornwall.

It is not the intention of the Station to declare such control areas until the matter has been presented to the town meetings or to the town officials, and until an effort is made to secure their approval of the measure. The proposition has been presented to the towns of North Canaan and Norfolk and the approval of both towns has been secured. This local support should have a helpful effect in our regulatory work.

Personals

L. W. Hodgkins spent several weeks in Connecticut this winter working with M. R. Adams and Bruce Beardsley on infection studies.

M. R. Adams and B. R. Park are conducting an infection study in Cornwall which will probably be completed this month.

J. E. Riley, Conn.

SOME TOWNS HARD TO CONVINCE

The annual Town Meeting of West Gardiner, Maine, has just been held. The following items concerning the meeting are taken from an article in the "Kennebec Journal" (Augusta, Maine) for March 2, 1930, which was sent in by Mr. Frost:

"A total appropriation of \$17,945 was voted by the group, a sum in excess of last year's appropriation by \$2,172.

"Outside the door of the town hall two pine trees, one in a fine state of health and the other afflicted with blister rust, bore signs to the effect (1) I am healthy (2) I am afflicted with pine tree rust, a slow sure death. Despite this display the article in the warrant calling for a fund of \$200 to fight this white-pine blister rust in West Gardiner was dismissed.

"Out of the total number of 39 articles which the warrant of this year contained, six were dismissed, 31 were voted and two were voted down."

Edit: If the blister-rust item had been passed at the town meeting, the total appropriation would have amounted to \$18,145.00, of which blister-rust control would have been but 1.1% of the total.

BLACK-CURRENT ERADICATION IN THE EAST

Good progress was made during the past year in the campaign to eliminate European black currants, Ribes nigrum, from the white-pine regions of the East. Such bushes are destroyed in connection with the control work in all the cooperating States, but special systematic black-currant eradication projects were conducted during 1930 in five States, as indicated in the following table:

Results of Black-Currant Eradication Work Conducted As Special Projects in the Northeastern and Lake States During 1930.

State	No. Towns Worked	No. Towns Completed	No. patches Black Currants Located	No. Ribes Nigrum Pulled
Massachusetts	65	63	1,534	12,190
Rhode Island	18	15	416	3,930
Connecticut	5	4	12	30*
New York	58	49	462	2,455
Michigan	136	134	1,630	17,778
Totals	282	265	4,054	36,383

* 2,973 other cultivated Ribes pulled in connection with this work in Connecticut.

All control work in Rhode Island during the past two years has been limited to the systematic removal of Ribes nigrum. It is expected that this State project will be completed in 1931. The black-currant work in Connecticut this past year was conducted in combination with a cultivated Ribes survey. As indicated in the above table, relatively few black currants were found in the five towns worked in Connecticut. The magnitude of the project is evidenced by the fact that the towns worked in Michigan during 1930 cover an area of over 3,000,000 acres, or a section as large as the entire State of Connecticut, while in Massachusetts about 110,000 properties were inspected. In addition to these special projects, Ribes nigrum were destroyed in the other New England States in conjunction with the regular control work of eradicating wild and cultivated bushes.

March 6, 1931.

K. K. Stimson, Mass.

PROCEDURE IN CULTIVATED BLACK-CURRENT ERADICATION IN MICHIGAN

1. Before beginning the eradication work interview the county agricultural agent, the county prosecutor, and the editors of local papers.
2. Secure the crew men and machine, and arrange for boarding place for crew.
3. Make arrangements for burning the bushes, either on town dump or some other safe place.
4. Provide inspectors with a badge to be worn conspicuously on the shirt.
5. Black currants are located and owner interviewed.
6. Release slip is signed.
7. Black currant bushes are pulled.
8. Location of other Ribes than R. nigrum are noted.
9. Inspection Record, B. R. 26, filled in.
10. Map made of the city or village showing location of Ribes.
11. Regular township map showing 36 sections used in country outside of the villages to show location of cultivated Ribes.
12. Daily crew report made out each evening.
13. Where crew is unable to secure owner's cooperation, this is reported to the agent.

Note: The above is a synopsis of an excellent report by Mr. David Stouffer, Michigan State Leader. This is accompanied by a copy of Michigan law relative to blister rust, the forms used, and type of maps desired.

R.C.P.

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BLISTER RUST ON THE AIR

Dr. Dow V. Baxter of the University of Michigan writes on March 4:

"You will be interested to know that I was able to include a few remarks about the white pine blister rust in a recent radio talk over WJR on 'Why Trees Get Sick'. This lecture was one of a series which the University of Michigan broadcasts during the semester."

RIBES DISTRIBUTION DATA TO BE GATHERED IN WISCONSIN THIS SUMMER

The Land Economic Inventory of Wisconsin *, Mr. Bordner in charge has consented to include Ribes distribution as data his men will collect during the 1931 field season. This information will be put on the final maps by means of a separate symbol.

During 1930 the crew covered approximately 900,000 acres, most of which is best suited for timber growing. The 1931 work will probably begin in Douglas or Sawyer Counties in the northwestern part of the State.

Final maps are published during the winter or spring following the field work on $8\frac{1}{2} \times 11$ paper with one township to a sheet.

It may be well to say a few words about the inventory. The work may be divided into three parts: namely, land cover data, soil data, and economic data. The land cover furnishes information on forest cover, with a symbol for each important species, the vegetation, cleared land, cultivated land, and lakes. A stem analysis of representative trees and site studies of different types is also included. The soil data includes the various soil types, topography, and stoniness, and the economic data lists the present industries and resources and studies the potential industrial, agricultural, and recreational development.

Blister rust was discovered in Sawyer County in 1920 and in Douglas County last year. The mappers will be instructed to watch for blister rust and as they run parallel strips one-half mile apart in doing their mapping, they cross each section of land twice. This will be extensive scouting, but it will help.

This may be of interest to other agents, particularly in the Lake States.

T. F. Kouba, Wisc.

* Wisconsin Department of Agriculture and Markets, University of Wisconsin, Wisconsin Conservation Commission, Geological and Natural History Survey and the U. S. Forest Service through the Lake States Experiment Station cooperating.

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EARLY LEAFING OF RIBES IN WASHINGTON

On March 6th an examination of several species of currants and gooseberries growing near the greenhouse in Washington showed several of them already coming into leaf as a result of the comparatively warm weather in February. The maximum diameter of the leaves of yellow-flowering currants was $\frac{7}{8}$ of an inch, while the maximum diameter of gooseberry leaves was approximately $\frac{1}{2}$ of an inch. Freezing weather which occurred on the night of March 10th will probably set back the vegetative condition if it does not kill the leaves already out.

R.G.P.

STATE FORESTS IN MASSACHUSETTS PROVIDE WORK FOR THE UNEMPLOYED

State Forests in Massachusetts are performing a real service in the present unemployment situation. At the request of the Governor of the State, the Legislature made available in January an appropriation of \$100,000 for the emergency employment of men for improvement work on State forest lands. The plans called for the employment of about 500 men for a period of from ten to twelve weeks. In the present unemployment situation each community in Massachusetts has been called upon to organize local unemployment committees to assist in the problem as occasion permits. In selecting men for employment on the State forests, the Department of Conservation has cooperated with these local community committees by using only those men who are registered with these organizations. It has been necessary to restrict the selection of workers to men with dependents. A few former blister-rust inspectors have been furnished work under this emergency legislation, but since many of our former employees are not married, it has not been possible to assist them in this way.

Another appropriation of \$100,000 is being used by the Metropolitan District Commission for brush cutting operations in the park areas in greater Boston.

C. C. Perry, Mass.

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WHITE-PINE BLISTER RUST CONTROL IN VERMONT

During the past season about 100,000 wild and cultivated currant and gooseberry bushes were removed from 12,877 acres in order to protect 4,207 acres of white pine. The total cost for this work amounted to \$5,988.13 or an average price of 46 cents per acre of pine protected. Of this area 2,238 acres had been gone over previously. Pine lands have to be examined every two to five years. New bushes come in from seed stored in the soil, root crowns which were not entirely removed, and from small missed bushes.

The Vermont Forest Service does not recommend planting pure stands of white pine. Before planting mixed stands of white pine and red pine the area to be planted should have the currant and gooseberry bushes removed by June 1st of the year the planting is to be made. The Forest Service will be glad to make a free examination of your lands.

(Extract from "Green Mountain State Forest News," Dec. 1930.)

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RIBES RUBRUM IN 1548

Rhibes

Rhibes is called in duche saynte Iohans Treublin, and it is called in some places of England a Rasin tree.

(From "The Names of Herbes", by Wm. Turner A.D. 1548. Edited by James Britten 1881.)

BLISTER RUST IN CENTRAL QUEBEC

The enclosed letter was written in response to a request by the writer for information on blister-rust conditions in Canada as seen by Mr. Pond. Pond had considerable experience in blister-rust work in New York and New England States during the years 1922 to 1926. Later he received a degree from Cornell University and subsequently became connected with the Canadian International Paper Company, Ltd., where he did extensive timber cruising in Central Quebec where the observations herein mentioned were made. I know all the fellows will thank Pond for this interesting contribution to the News:

Feb. 5, 1931.

Dear Strait:

Here is the information concerning the spread of blister rust in Central Quebec about which I talked with you last week.

A timber cruiser notices not only the timber which he is estimating but also the various factors which influence the growth, quality and distribution of the timber, including the young growth. In cruising on the west shore of Rapid Lake and the south shore of Bark Lake, which lakes are integral parts of the general lake region known as Kakabonga Lake, blister rust was noticed on a number of white-pine saplings. These saplings were from 10 to 20 years old, ranging from 5 to 12 feet in height. The age of the cankers was not noticed or determined. However, some saplings were affected only on branches, and some on stems, mostly at a height of about 3-4 feet from the ground. In one place, on the side of a moderately sloping ridge, about 10 saplings were found, of which three were dead and the remainder somewhat stunted in growth. One canker was apparently dead, on stem of tree, though cause of such was not determined.

A search for the cause found that a species of *Ribes* was prevalent, showing infestation of blister rust on some of the leaves. This species was generally recumbent, with long runners, light-green, somewhat rounded leaves, and often stems of $1\frac{1}{2}$ - $2\frac{1}{2}$ feet rising from runners. This species was judged to be *Ribes triste*, after consultation with taxonomists, though such identification is not yet confirmed. Another species of *Ribes*, *Ribes cynosbati*, was found but infection was not determined upon that species.

The problem of eradication would be difficult in that area. Logging of white pine took place in 1890-1900 so that only isolated specimens or groups of mature trees are found. In some places, natural regeneration is taking place, so that these are foci of infection for blister rust. The region at present is mainly a pulpwood-producing area which does not consider white pine as an object in the cut but only as an incidental means of income. The distribution of the *Ribes triste* is so thick in the edges of the swamps and poorly-drained slopes that eradication would be an economic folly at present.

The areas immediately adjacent to Kakabonga Lake have been drowned out by the installation of a dam which raised the lake level by 15 feet. But

corresponding areas must be present above the present lake surface. Possibly they have not yet been invaded by the blister rust. Maybe the rise in the lake has been an unpremeditated eradication measure, but that is a moot question. In other areas cruised by the writer, notably along the upper Pickanock River and around Baskatong Lake, Ribes were not found nor was blister rust. These areas mentioned are in the limits held by the Canadian International Paper Company, Ltd.

The writer has been on blister rust control in western Massachusetts in 1922, as well as in New York State. He has been on blister-rust work in Essex County in 1924, besides being foreman on private lands in Otsego, Chenango, Delaware, Schoharie and Columbia Counties in New York from 1925-1926. The Canadian investigations were made in 1928 and 1929.

My address after February 12 will be Farm Bureau Office, Fort Edward, New York.

(Sgd.) James D. Pond.

Feb. 13, 1931.

H. G. Strait, New York.

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EXTRAORDINARY GROWTH OF WHITE PINE IN PLYMOUTH COUNTY, MASS.

It may be remembered that Mr. Brockway had an article on "Extension Forestry Succeeding in Plymouth County, Massachusetts" in the February News Letter on page 38. The statement was made that on one piece of land in Bridgewater which was used as a cornfield 35 years ago, trees cut last winter measured 22 inches D.B.H. At the request of the Office Mr. Brockway has elaborated a little bit on this statement and his note is here given:

"Referring to the Bridgewater area I will say that County Agricultural Agent Dayton, Extension Forester Parmenter, and myself measured some 5 or 6 trees, and one was 20, two were 21, and three were 22 inches D.B.H. As I understood it the place was a cornfield 35 years ago. The land was top dressed with manure and the corn was not planted. Trees were planted instead or came up naturally, I could not learn which, but at any rate the trees received the benefit of the manure. The soil is also a wet mucky loam and the place is next to a swamp. Believe me we were all very much impressed.

"The nearest thing I ever heard to this was the following: James Hemenway is forester for Geo. E. Keith Shoe Co. of Brockton. He came up from Maine in 1892. There was a field in East Bridgewater coming up to young pine. In 1923, just 30 years later he cut these pines. He says they were 16 inches in diameter and a few bigger."

E. M. Brockway, Mass.

IF THE BLISTER-RUST "SILENT SALESMEN" COULD SPEAK!

In the January issue of the NEWS there appeared an article under the heading "Silent Salesmen at Work During the Massachusetts Tercentenary Celebration". The item depicted in a brief way the usefulness and extent to which we have employed the blister-rust roadside display as one feature of our educational activities. It is unfortunate that we cannot show in dollars and cents the real value of this type of educational work, but in this respect we are in precisely the same position as thousands of private business concerns. Nevertheless, it is quite universally conceded that "IT PAYS TO ADVERTISE" provided, of course, suitable methods are employed at the proper time and place

The success or failure of any project such as blister-rust control depends almost entirely upon the attitude of the public towards the work. Our methods of informing the public as well as the quality and quantity of the work accomplished, have a most direct bearing upon their opinions. While it is true that comparatively few persons either for or against any project (particularly the former) will go to the trouble to write a letter about it, this does not mean that we are lacking information regarding the attitude of either group. By taking up a position near one of these roadside displays when traffic is normal, it is not long before interested parties appear on the scene. Their comments are varied, always interesting, and give us a fairly good idea of the general trend of thought and attitude towards blister-rust control work.

If the Silent Salesmen could speak, what would they tell us concerning the attitude of the public? From my own observations they would say that they had never been defaced or molested in any way; that the public as a whole, is in hearty accord with present control work, and that as a rule the public feels that a service is being rendered by giving information by means of these roadside displays. Some specific comments are recalled as follows:

Observer A: "Oh yes, that's blister rust, the disease that kills white pine."

Citizen B: "Look over there. Do you see that blister-rust display? There are samples of the disease."

"That is what I was telling you about the other day. Now we can see what it is really like."

Ribes Owner C: "There is always some pest to fight these days. That blister rust kills the pine trees. That's why they took up my currant bushes two years ago. See what the sign says - 'UPROOT CURRANT AND GOOSEBERRY BUSHES TO PROTECT WHITE PINE'. My neighbor next door was mad about losing his bushes, but I felt that there was no comparison between the value of the few currants and the value of the pines in our town."

Farmer D: "I have a little farm down in Maine and last summer a chap came over while I was cultivating and made me go all over my place with him and pull up the pesky currants. I never noticed them before, and yet we have found quite a few. I didn't like the idea of stopping my work, but he said that I would have to do it some time and why not then while he was there."

Observer E: "'WHITE PINE WILL GROW WHERE THE PLOW CAN'T GO'. Say that's good isn't it? That's a real point."

Salesman F: "Say those signs are good - brief and to the point. I am not especially interested in forest protection, because my line is steel. To my mind there is nothing much more aggravating than a salesman, a sales-letter, or an advertisement that does not come quickly to the point."

Tourist G: "Look, there's another one of those blister-rust exhibits. This is the third one we have passed today. Let's look at this one while the engine is cooling off. That was some grade."

One Sunday afternoon near a display at the State Forest Camping Ground on the Mohawk Trail, two bus loads of tourists stopped at a refreshment stand. The leader of the tour noticed the blister-rust display nearby and came over to ask questions. In a few minutes others of the party also came over. Their comments were as follows:

"This is very interesting. I have never seen anything like this before. Practically all of us are from the West. I think this idea of showing the public just what happens is very good. Isn't it something new? May we have one of the folders; our time is limited and there are some who have not seen this display."

A gentleman from Worcester views the display. After a little chat with the agent he remarked "I have twelve black currant bushes at home. I shall have them destroyed at once. This display attracted my attention, because it was so different from anything else I have ever seen. After reading one of these folders and examining the specimens you have here, one ought to realize the seriousness of this tree disease."

The comments listed above are only a few that come to mind at this time, and these with many similar ones have guided us somewhat in developing the display. Our present standardized demonstration is the result of numerous revisions both as to the wording of the signs and manner of placing the specimens. Even now, we expect to make further improvements, although we have never heard any adverse criticism from the public concerning the present type and arrangement. During the field season the inspectors have reported many times that pine owners comment favorably on these roadside exhibits. The inspectors find that the displays serve as advance agents and have been the means of convincing owners that they should take the necessary steps to protect the white pine on their holdings. Of course, we find occasional malcontents, usually persons who feel aggrieved because of the loss of their cultivated Ribes. Such persons, however, are the exception rather than the rule.

G. S. Doore, Mass.

WHITE PINE IN THE SOUTHERN APPALACHIANS
(With Notes on Ribes Distribution)

Mr. J. A. Cope of New York who acted as a Field Agent for the Office in the summer of 1930 made an extensive survey for white pine and Ribes south of Pennsylvania, and reported to the Office of Blister-Rust Control the results of the survey. Some of the most salient features of his report are given below:

White pines were found in the Appalachian Range as far south as Georgia.

Maryland

In western Maryland, Garrett County originally had considerable white pine but today the acreage of natural white pine is relatively insignificant. Coupled with this is the presence in quantity of Ribes rotundifolium, which will make Ribes eradication necessary to control the blister rust whenever the rust crosses the Pennsylvania-Maryland line.

In western Alleghany County, on Dan's Mountain at 2,800 feet, Ribes rotundifolium is frequent but it "peters out" at Lonaconing at 1,700 feet. In Garrett County such mountain tops as Meadow Mt. and Negro Mt. above 2,500 feet show plentiful distribution of this species of Ribes.

West Virginia

West Virginia has 3 main areas of white pine, one in the southwest in Raleigh, Mercer, Summer and Monroe Counties; a second on the east side of the Greenbrier River in Greenbrier and Pocahontas Counties; and a third on the Potomac River drainage in Pocahontas, Grant and Hardy Counties.

In Area #1, many pure stands of white pine 30 to 40 years old were observed which had seeded in on abandoned fields.

Area #2 - White pine is more abundant in Pocahontas County than anywhere else in the State. About 30,000 acres have 5% of white pine or better. Of this, 5,000 acres is in pure stands on abandoned fields.

Area #3 - Heaviest white pine in this area lies between Sugar Grove and Oak Flat. Here there is a virgin stand of white pine in mixture with white oak of 100 acres near Oak Flat, which is worthy of note.

Besides the 3 main areas there is a small stand of white pine on the Monongahela National Forest on the Cheat River 5 miles north of Parsons, in which the white pine has made remarkable growth. White pine and tulip poplar are in mixture. In 45 years, the average diameter of dominant white pine was 11.8 inches, while that of the poplar was 9.5 inches; in height growth, the poplars were in the 80 foot-height class, while the pine was in the 70-foot class.

On the whole, white pine would seem to have greater future possibilities in this State than in western Maryland, particularly in the three white pine areas. The weevil is not nearly as prevalent as in western Maryland. There are still an abundance of Ribes to eliminate in advance of possible infection, but their distribution and occurrence in the valleys where white pine will do best and hence best justify protective measures, make them rather easy to remove. Fire is the chief future enemy of West Virginia's valuable white pine; once it can be controlled the future of white pine as a commercial species in the State is assured.

(To be continued in the April issue)

NEWS ITEMS FROM NEW YORK

The first week in February was a busy one in Albany for Foresters and others interested along the lines of forestry. Three important forestry organizations met during the week, - The New York State Forestry Association, The Northeastern Forestry Council, and the New York Section, Society of American Foresters. Unusual interest was manifested at all the meetings. Among the speakers scheduled to talk were the newly appointed Conservation Commissioner Hon. Henry Morgenthau, Jr.; Dr. Hugh P. Baker, Dean of the New York State College of Forestry; Prof. Ralph S. Hosmer of the Department of Forestry, Cornell University; Dr. Carl Ladd, Deputy to the Conservation Commissioner; Mr. E. H. Thomson, President of the Federal Land Bank, Springfield; Dr. Richard E. Sykes, President of the St. Lawrence University; and Hon. Chas. J. Hewitt, Chairman of the State Reforestation Commission.

Personals

Former Agent H. A. Williams of Oneonta and Agent Harpp of Warrensburg recently returned from a two weeks trip to Florida and Havana, Cuba. So far only fragmentary reports have drifted in regarding the trip but it is understood that the trip was shortened due to the alarming shrinkage of funds, caused possibly by the overstay at Havana.

H. G. Strait, New York.

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MAP SLIDE AVAILABLE

A new lantern slide, No. 4221, showing the range of white pine and distribution of the blister rust (Cronartium ribicola) at the end of 1930, is available at the Washington Office. If you desire this slide or other slides let me know.

R. G. Pierce.

PENNSYLVANIA FOREST INSPECTORS CONFERENCE

The Forest Inspectors, District Foresters and their assistants of the Forbes, Gallitzin, Logan, Rothrock, Tuscarora, Penn, Buchanan, Mont Alto, Michaux and Weiser forest districts, numbering about eighty men, attended a conference held at McConnellsburg, Pennsylvania, February 18th and 19th. The territory covered by these districts comprises the entire southwestern part of the State, from the Susquehanna to the Ohio line, and a large part of the anthracite region. In the Pennsylvania Forest Service the inspector occupies somewhat the same position in forest activities on private land as the ranger does on State Forests.

The discussions at the meeting were principally concerned with fire prevention and extinction in the various phases. The meeting was opened with an address by George H. Wirt, Chief of the Bureau of Forest Protection in the Pennsylvania Department of Forests and Waters, under which Bureau blister-rust control work is carried on. Papers were read by the different inspectors expounding their views and methods of forest protection. Forester R. M. May of the Blister-Rust Control Office at Brockway, Pa., read a paper on White-Pine Blister Rust. Control work on this disease is a new activity for Pennsylvania inspectors.

R. M. May, Pa.

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CURRENTS TO THE RESCUE OF THE DROUGHT SUFFERERS

Miss M. A. Thompson, formerly of this Office and now of the Plant Quarantine and Control Administration, has sent in the following clipping from the Washington Evening Star of February 21, which may be of interest:

"Five thousand pounds of sun-dried Corinthian currants were sent by children of the Greek Junior Red Cross, to the American Junior Red Cross. The currants were turned over to domestic science classes in schools throughout the country and members of the classes used them for cookies to send to the little ones in the drought States. The cookies were sent in lots of from 50 to 300 dozen."

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HORT. CLUB MEMBERS WARNED AGAINST BLISTER RUST

Mr. Roy G. Pierce in an illustrated talk on "Flowering Trees and Shrubs" given before the Takoma (D.C.-Md.) Horticultural Club on February 23, showed several blister-rust slides and called attention to the danger of transporting native white-pine trees from the north to the vicinity of Washington. He stated that auto tourists were prone to dig up little trees in the woods and bring them home to beautify their yards, but that this was in violation of quarantine regulations, besides being a real danger in possibly bringing in a disease now foreign to the District of Columbia and vicinity.

A PLEA FOR MORE FORESTS

We all know this "hard times" talk is overdone. However, we have to admit that things aren't too good right now, but we believe they are going to be much better soon. Also, we are certain that if we didn't have our forests to lean on things would be worse at the present time. The forest furnishes thousands with something to do: and the woodlot owner no matter how small is getting at least some revenue from it.

So, let's get all the idle land we can growing something to advantage. On all farms there is sure to be a few acres, more or less, that aren't producing a cent. Let's get them busy, particularly when two dollars worth of trees and a little work will make such a showing on an acre.

This land is being taxed whether or not it's idle or growing crops. If this area is not agricultural land, why not plant it to trees and, if in New York, file a tax exemption blank which will keep the taxes from increasing, no matter how valuable the timber becomes, until it is harvested? When it is cut a six percent stumpage-value fee goes to the town. It robs nobody of any taxes until some money is realized from the crop.

Whether plantation or natural stand let's protect this young white pine from the blister rust by the removal of currants and gooseberries from within the area and for a distance of from three to nine hundred feet surrounding the stand. The difference in the width of this protective strip depends on the amount of underbrush growing where the bushes are found. The disease will not spread from tree to tree, but all currants and gooseberries carry it. Without them it is under control.

All of our forests if protected and given a chance will be of great value in the future as a crop. All crops need more or less attention.

Our forests as we all know serve many other purposes such as providing beautiful scenery, or serving as watersheds and game refuges. Again we must mention that they are very valuable in times of depression. The young crop of today may be exceptionally beneficial in the future.

N. H. Harpp, N. Y.

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WHITE PINE GROWS RAPIDLY

The Caledonia White Pine Study Plot located in the Michaux State Forest was recently remeasured and found to have grown at the rate of 208 cubic feet per acre per year during the 5-year period since the last measurements were taken. The stand is now 25 years old and has a live volume of 30.5 cords of wood per acre. The mean annual increment to date has been 125 cubic feet per acre. The trees now average six inches in diameter at breast height and 36 feet tall. The dominant trees are eight inches in diameter and 42 feet tall.

(Extract from the Service Letter of the Pennsylvania Dept. of Forests and Waters, March 5, 1931.)

STRUCTURE AND STRENGTH OF WHITE PINE

Mr. J. Edson Myer has an instructive paper on "The Structure and Strength of Four North American Woods as Influenced by Range, Habitat, and Position in the Tree"*. While 4 species, namely, eastern white pine, eastern hemlock, sugar maple and white oak are studied, the reviewer will confine his attention mostly to the white pine.

The author quotes from Eloise Gerry who noted in a study of the white pine that the length of fibers varies with the position in the tree. The shortest were found near the pith from which point they showed an irregular increase in length along the radii of the trunk. Lengthwise of the tree, the fiber length increased upward for about two-thirds the height above which point there appeared a reduction in this dimension. In spite of the fact that from stump to top the density and strength of the wood decreased, these two factors could not be correlated. The average fiber length was found to be no greater within a species than within an individual tree, an observation which was substantiated by Shepard and Bailey as a result of their work on several conifers.

In general investigators are unanimous in their deductions that the wood from the lower portions of a tree is more dense and therefore stronger than that from the higher levels; that among the conifers, at least in trees that are still growing vigorously, the center of the tree at a given height includes wood which is usually lighter and weaker than that found nearer the bark; that in some species at least the wood from trees growing in the warmer part of the range is stronger and more dense than that from trees grown in the cooler portions; that fiber lengths show considerable variation within a tree since the shortest fibers appear in the wood near the pith from which region they increase in length during the next 25 to 65 years; that beyond this age they show fluctuations in length which appear to exhibit no directed trend; that the longest fibers are found within the middle third of a tree and in the rings nearest the bark; and that fiber length is associated with neither ring width, specific gravity, nor strength properties.

Ninety-seven samples of white pine were collected in various parts of its range and examined microscopically and mechanically. The wood of white pine and eastern hemlock is so similar that their properties may be contrasted.

Tracheids

The coarsest pine came from the Appalachian district and the finest from the northeastern United States and Canada. White pine was 7.7% and hemlock 3.3% coarser in the south than in the northern United States.

Specific Gravity

Specimens of white pines from the Appalachians were the densest, the average specific gravity being, .469; for northeastern United States .370,

* Technical Publication No. 31 of the New York State College of Forestry at Syracuse University, July, 1930.

and for the Lake States .385. Pine showed a distinct decrease in specific gravity from the stump to the 16-foot height, above which no consistent change was noted.

Compression Tests

White pine samples taken from stump height were found to average 3.4% less resistant to endwise compression than were those from the 16-foot level. These results are not in accord with those reported by Miss Gerry who found that strength values decreased from the butt toward the top.

In conclusion, it would appear that the texture of white pine and hemlock, based on tracheid diameter and ray volume, shows no definite inter-regional variation, that no definite correlation exists between specific gravity, compression strength, and range, but that there is nevertheless an indication that the heaviest and strongest wood may be found in trees growing in the Appalachian region.

Reviewed by R. G. Pierce.

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WHITE PINE IN OHIO

The Ohio Forest News for November, 1930, gives a list of 9 deciduous trees and 9 coniferous species as suitable for forest planting in the State. Of the conifers red pine is considered one of the best species for forest planting on the average site in Ohio. White pine comes second in the list; the paragraph on this tree is given in full below:

"The white pine was found native originally throughout northeastern Ohio, and is still found in scattered tracts in mixture with hemlock or hardwoods. It was considered one of the best trees in the original forest and for this reason was cut out almost completely. It is fairly fast growing and has a wood which is unsurpassed for many purposes. The tree is somewhat more exacting in the soil it requires than red pine, making satisfactory growth on the better sites. It is less hardy than the red pine and is more difficult to establish in a forest plantation, but grows at about the same rate on moderately good sites. Northern and eastern slopes are better than the southern and western."

Edit:- It will be of interest to note that the white-pine blister rust which was discovered in Ohio in 1910, 1911 and 1916 on diseased pine in several nurseries, has not been found within the State for the last 14 years. The destruction of the entire lots of nursery stock in which the infected trees were found resulted in freeing the State of the rust.

R. G. P.

THE NANKING CHERRY, PRUNUS TOMENTOSA

It will probably be remembered by some of the agents who have been in the service the longest that the Nanking or Manchurian Cherry, Prunus tomentosa, has been suggested as a bush fruit which might possibly take the place of the cultivated currants or gooseberries which are being destroyed on account of blister rust. It will be of interest to know that the "National Nurseryman", a monthly publication, has devoted a large percent of its space for the issue for January 15, 1931, to this cherry.

Mr. George L. Slate in one of the articles in this number entitled "The Chinese Dwarf Cherry" states that "As an ornamental fruit bearing shrub it has few rivals. It is attractive in flavor, foliage and fruit. The flowers are white or faintly tinged with pink and are borne in masses along the branches. The fruit is a bright cherry red in color, with a sprightly refreshing flavor similar to that of the Montmorency cherry. It ripens early in July and often keeps well on the plant for several weeks. The contrast of the bright red fruit and the rich green, tomentose foliage, gives the plant a most attractive and distinctive appearance. Because of the small size of the plant which may be grown either as a small tree or as a shrub, it is a valuable plant for the small home grounds where space is limited. It rarely exceeds eight feet in height. It grows well in mixed hedges and makes an excellent flowering tree for the edge of the woodlands. The fruit is relished by children, and a refreshing summer drink may be made from the juice."

While this plant was first introduced into the United States in 1882, it is even now listed by few nurseries.

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ERRATA

In the February number of the Blister Rust News, on page 36, it was stated that,

"Crahay calls attention to the control of Scotch pine rust by the use of Bordeaux mixture and anticipates the development of a similarly successful treatment for the white-pine blister rust".

This was copied from a review in the Journal of Forestry. I have just seen the Belgian article which was reviewed, and I learn that the Reviewer made an error in translating from the French, for Mr. Crahay of Belgium does not write of the control of the Scotch Pine rust but the control of a needle disease "le roussi du pin sylvestre". Roussi means reddening and is the same as "le rouge" of the Scotch pine, which is caused by the fungus Lophodermium pinastri (Schrad.) Chev. Mm Dufrenoy, and Delacroix and Maublanc all state that the treatment with Bordeaux mixture of the Scotch pine in nurseries affected lightly with "le rouge" has given good results, which agrees with Crahay's statement.

Roy G. Pierce.

A NEAR (WHITE) PINE-LESS TOWN

In company with Agent Hogkins time was spent recently in making an ocular white-pine survey of the town of Nahant, Massachusetts. The primary purpose of this survey was not so much to ascertain the acreage of white pine in the town, but rather to determine whether or not the blister rust had reached the locality. Nahant is a peninsula connected to the mainland by a strip of land possibly 500 feet wide at high water. It is in a way isolated and is the only township in Essex County where blister rust has not been found on white pine. As a result of the survey it was found that white pines are almost entirely absent. As a matter of fact, only twelve specimens were located. Of this number, only one tree seemed to be a native specimen, the eleven others had been set out as ornamentals.

Nahant is the famed home town of the late Senator Henry Cabot Lodge. It was the Senator's unfailing custom to lay aside the exacting duties of his office for a sufficient length of time in March to return to Nahant and assist in the management of local affairs by accepting the election to the office of Moderator of the annual Town Meeting. Nahant is essentially a summer resort, the entire township area except the immediate rock-bound shore line having been developed for residential purposes. In area the town covers a mere 680 acres, but it seems almost incredible that white pines even as ornamentals should be such a minus factor. The most that can be said is that we at least have no blister-rust problem to contend with in one township in Massachusetts.

Feb. 28, 1931.

C. C. Perry, Mass.

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NEW NATIONAL FORESTS IN UPPER MICHIGAN

President Hoover has recently signed a proclamation bringing into being 3 new National Forests in the Upper Peninsula of Michigan. The Hiawatha with a gross area of 270,071 acres (formerly known as the Mackinac Purchase Unit), lies back of Munising, midway of the Peninsula, the Ottawa extends toward the west end with a gross area of 252,551 acres, and the Marquette with a gross area of 275,986 acres lies near the Straits.

The Hiawatha has large areas of aspen which the Forest Service says will make a good protective cover for white pine and Norway pine.

The three new forests will at present all be under the management of one supervisor, who will have his headquarters at Munising. Ranger stations will be at Munising, Raco, and Kenton.

This is of particular interest not only to the present blister-rust control force in Michigan, but also to "Jack" Frost who used to roam the Upper Peninsula, "Put" Putnam and "Charlie" Johnson in the West, and to other loyal Michiganders including ye Editor.

R.G.P

O F F I C E C O M E N T

RETIREMENT - DISABILITY - HOSPITALIZATION TO
DETERMINE ELIGIBILITY.

Appropriations for administering the civil retirement act are available for hospitalization of civilian employees solely for observation, as distinguished from treatment, to determine eligibility for disability retirement, and for traveling expenses of applicants for disability retirement when duly ordered by proper authority to proceed from their homes to the hospitals and return for such purpose. Such observations are required to be conducted primarily in Government institutions, but if not reasonably available, the same may be authorized in private institutions. If the hospitalization is in a Government institution, there is no requirement or authority for charging the appropriation for administering the civil retirement act and crediting the appropriation for maintaining the Government institution.

(A-33837) 10 Comp. Gen. 203.

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PROMPT HANDLING OF CORRESPONDENCE

Gentlemen:

We are in receipt of a memorandum from the Secretary relative to delays in answering correspondence, reading in part as follows:

"Several complaints have reached the Department recently concerning delays in answering correspondence. While I can appreciate the fact that it is not always possible to make an immediate reply, I feel that all letters received in the Department are entitled to prompt attention and that in cases where a full reply cannot be made in a reasonable time, the receipt of the letter should at least be acknowledged and the writer advised that a more complete answer will be made at a later date."

It will be appreciated if you will bring this matter to the attention of all those in your organization who are engaged in handling correspondence with instructions that all letters received be acknowledged promptly if an immediate reply is not practicable.

Very sincerely,

B.P.I. Memo. 566
March 4, 1931.

(Sgd.) Wm. A. Taylor,
Chief of Bureau.

AMONG OURSELVES

Dr. J. F. Martin left Washington March 10th for a field trip of about a month to New England and New York.

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We are glad to state that Mr. Joshua Thompson of the Washington Office is making rapid recovery from pneumonia. We hope that Mr. Wm. A. Clave, whom Mr. Filler reports sick with pneumonia, will also make a rapid recovery.

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Mr. F. H. Rose of Vermont, and Messrs. F. J. Baker and W. J. Cullen of New Hampshire, have been temporarily transferred to Plant Quarantine and Control Administration.

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Mr. R. L. MacLeod, Business Manager in the Western Office, has been in the Washington, D. C. Office for the past month for a tour of duty. We are always glad to welcome our Westerners at headquarters.

Mr. John Large, who was engaged in blister-rust work in the West in 1924 and 1925, and who is now teaching botany in George Washington University in the District of Columbia, visited the Office March 9th and talked over old times with Mr. MacLeod.

Mr. and Mrs. Wm. T. Roop of Arlington, Massachusetts, passed through Washington enroute from Florida to Massachusetts, on February 26th and visited the members of the Office. Mr. Roop is the "Grand Old Man" of the Blister-Rust Control force, having just passed his 72nd birthday. While in St. Petersburg, Florida, he had the pleasure of meeting a number of pine owners of his District, whose Ribes he had destroyed. Hearing that Mr. and Mrs. Roop were in Florida they came and looked them up. That's the kind of cooperators to have. "Get their Ribes and make them like it". Mr. Roop has been on our blister-rust control work since January, 1920.

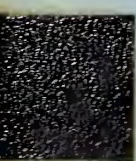
PUBLICATIONS

White Pine

Adams, W. R. Jr. Studies in Tolerance of New England Forest Trees,- The Change in the Environmental Factors Caused by Thinnings in Pine Plantations. Vermont Agric. Exper. Sta. Bul. 310, May 1930.

Edit: This is the 10th in this interesting Series of forestry studies which the Vermont Agr. Exper. Station at Burlington has put out.





THE BLISTER RUST NEWS



April, 1931.

Volume XV

Number 4

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
OFFICE of BLISTER RUST CONTROL

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister-Rust Control
and Cooperating States

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April, 1931.

PEST CONTROL IN NEW YORK

Mr. H. L. McIntyre, Supervisor of Forest Pest Control in the New York Conservation Department, gave a radio address over station W.G.Y. at Albany, New York, on April 6, on the subject "Guarding Our Forests".

In order to get an idea of the acreage of forest land in New York which is approximately 12 million acres, it was stated that this area is equal to a strip of country approximately 6 miles wide extending from New York to San Francisco. In planning to plant an additional million acres, this would add another strip approximately 1/2 mile wide between the above cities.

Mr. McIntyre called attention to two outstanding examples of forest pest control in the Empire State. The campaign to prevent the permanent establishment of the gypsy moth in New York State dates back to 1923. In that year outbreaks of the insect were discovered along the eastern border. In the eight years that have followed, many more of these outbreaks have been discovered and exterminated. For 17 years the gypsy moth approached New York at an average of 6 miles per year. Since the inauguration of the control project no spread of the pest has been reported. The cost of this campaign for the 8-year period, if divided proportionately among the present population of New York, would amount to fifteen cents each.

The control of the white-pine blister rust constitutes another forest protection measure of major importance. Since 1923 over a half a million acres of white pine have been initially protected from this disease. The cost has been a few cents per acre, or if the entire cost was proportionately charged to New York's present population, they would be required to contribute a little less than 3 cents each.

MASSACHUSETTS BRINGS ITS BLISTER-RUST CONTROL RECORD
SYSTEM UP TO DATE

The winter season of 1930-31 in blister-rust control activities in Massachusetts can well be recorded as having been devoted to an unprecedentedly serious attempt to bring our field records up to date, and to put them in such shape that they will be of permanent value, particularly in the planning and execution of whatever future control work is needed to adequately prevent continuing damage by the rust.

In the Massachusetts plan there is no central agency or clearing house for tabulating or summarizing the detailed blister-rust control field data. In other words the district agents are solely responsible for the tabulation and summarization of all data relating to the work in their respective districts. This is no trifling assignment. At the end of every field season during the initial control program we have made an effort to post in our control ledger, so to speak, the results of the current Ribes eradication season. This effort, however, has only been partially successful; due to the pressure of other work. At the close of the 1930 field season, however, a more determined attempt was made to carry our good intentions to completion. The ultimate goal was to prepare some sort of adequate town summary records, and a series of what might be termed status maps.

Town Summary Records

For the purpose of obtaining a complete summary by years for each township in the State, a simple form was devised on which to enter the following data: (1) Number of cooperators (a) in wild Ribes eradication, (b) in cultivated Ribes eradication; (2) Number of acres of land examined; (3) Number of acres of pine protected; (4) Number of Ribes removed (a) wild, (b) cultivated; and (5) Expenditures (a) by cooperators, (b) by the State Department of Agriculture. These headings were arranged in such manner as to permit the ready entry of the data. Six lines have been provided for initial control work data, and fifteen lines for possible reexaminations at any time in the future. These forms are assembled in district books so that by simple reference the status of control work in any township in the district can be readily ascertained. A complete set of the district records has been prepared, and is on file with the State Leader.

Status Maps

From the completed town summary sheets a series of district and State maps has been prepared to show at a glance the condition prevailing in the 355 cities and towns in the State, with regard to (a) the relative ABUNDANCE OF WHITE PINE; (b) the relative ABUNDANCE OF WILD RIBES; (c) the relative ABUNDANCE OF INFECTION ON PINE; and (d) the need for REEXAMINATIONS. To discuss these maps separately:

White Pine Map

This map is constructed on somewhat the same basis as the pine survey maps prepared by Mr. Filler's office. The basic data, however,

are taken directly from the town summary sheets referred to above. The figures relative to the area of white pine protected in each town are first totalled. The resulting pine acreage figure is then applied to the total town area to determine what we have chosen to call the pine percentage coefficient (PX); that is, the percentage of the total town area that is producing white pine. These coefficients are then grouped as in the case of the pine survey data into four classes with a legend as follows:

Red	:	46-60%	or more in pine		
Blue	:	31-45%		"	"
Green	:	16-30%		"	"
Uncolored	:	1-15%		"	"

Wild Ribes Maps

In developing a map to show the relative distribution of wild Ribes we have again made use of the town summary records to determine what we have seen fit to designate as a Ribes coefficient (RX). The total number of wild Ribes removed in each town is obtained from the summary sheets, and applied to the total area examined in the town. These Ribes coefficients are then grouped and represented on the finished map as follows:

Red:	more than 7 wild Ribes per acre				
Blue:	5-7	"	"	"	"
Green:	2-4	"	"	"	"
Uncolored:	1 or less than 1	"	"	"	"

In this connection the above grouping of coefficients is rather tentative and can probably be improved upon to better fit the Massachusetts conditions regarding Ribes population.

Pine Infection Map

The map showing the relative abundance of infection on pine in each town is not based upon actual figures, but has been constructed upon the following rather broad classification:

Red:	infection abundant throughout the town
Blue:	" " in sections only
Green:	" occasional or isolated spot only
Uncolored:	no infection reported

This map is based, of course, entirely on individual judgement and therefore is to an extent not as dependable as the other maps. It is difficult, however, if not impossible to determine the percentage of infection on any town area basis. Percentage of infection in plots is likewise not always a practicable method. For that reason resort has been made to this arbitrary basis for present purposes.

Reexamination Map

It will be noted that in the legend used in all the maps thus far described, the same color scheme has been employed to indicate the relative degree of abundance. Red, for example, in each case indicates the highest degree of abundance; that is, the higher percentages of land area in white pine; the larger number of Ribes per acre; and the greatest abundance of infection. Blue indicates a lesser degree of abundance; the green, a still lesser degree; and the uncolored symbol represents the lowest degree. Yellow has been employed in each map to indicate the townships where no control work has been performed because of the almost complete absence of white pine as a forest crop.

The purpose of having the same color scheme in each map is not only to produce an immediate optical impression of relative abundance but secondarily to make possible the construction of some sort of a map to indicate the relative necessity for reexamination work. In other words, towns which by reference to the maps are represented in red in all three instances are of necessity towns where reexaminations are most urgent. Towns which are represented by the blue symbol can be said to be those in which further work is essential but not quite as urgent. And so on down the scale. In constructing the reexamination map it has been necessary to resort to a consideration of a combination of the several conditions involved. For example, a town in which pine is represented in one of the higher percentages may have a low Ribes coefficient, and yet, for some reason infection has already gained a foothold. Because of the infection conditions the town must be given one of the higher urgency ratings on the reexamination map. On the other hand, infection may be intense and Ribes may be relatively abundant in a town where the pine percentage coefficient is extremely low. In such a town it would obviously not be as important to make reexaminations as it would be if the pine percentage coefficient was high. And so on. The legend used on this final map is as follows:

Red:	reexamination urgent
Blue:	" essential (but not urgent)
Green:	" necessary (but not immediately essential)
Uncolored:	" unimportant

In addition to these four special maps we have, of course, the usual district and State maps showing (1) areas initially examined for Ribes; (2) areas where reexaminations have already been made; (3) status of European black currant elimination work; and (4) plan for the 1931 field season.

To Conclude: We now have in our possession a neat series of forms summarizing by years from 1922 to 1930 inclusive, complete control work data for each of the 355 cities and towns in the Commonwealth. From these data as a basis we have constructed a series of maps by means of which we are able to present a very complete picture of present conditions, what has

been done, and what we anticipate it may be necessary to do. We are convinced that these maps will be of particular service for the use of the inquiring layman, town official, legislators, and the like. The point of the system is that the summaries and particularly the maps are simplicity personified. The details while available, are entirely eliminated from the maps. We have purposely refrained from entering any data whatsoever on the maps; we prefer to have the colors tell the story first. The details are available on the summary records for those who are more statistically minded.

April 4, 1931.

C. C. Perry, Mass.

Edit: I understand that several of the other States have been busy on this same problem and have obtained results very similar to those described by Mr. Perry. It would be interesting to have statements of this character from the other States. Mr. Perry has a useful and valuable set of records. They are a credit to him and his assistants and will be of exceptional service in connection with maintaining control of the rust in Massachusetts.

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MAPPING WHITE PINE AREAS IN PENNSYLVANIA

During the past winter we started mapping the white-pine areas in the State. Up to the present, the field work has been completed in eight forest districts and is nearly completed in another district. When this last district is finished we will have covered nine of the 24 districts in the State

Up to the present the data secured in the field has not been summarized so we cannot give any figures on the white-pine acreage in the various districts covered by the survey.

R. P. Fatzinger, Pa.

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LARGEST SCHOOL FOREST IN NEW YORK

The Holland Patent High School recently acquired an area of some 126 acres of abandoned farm land in the town of Floyd, Oneida County. This area is to be used as a school demonstration and experimental forest. Mr. Louis Johnson, Agricultural teacher at Holland Patent, will supervise the work. Mr. Johnson plans to try out various sample plots of the different species available. Planting will start this spring and among other species includes several thousand white pine.

This is said to be the largest school forest in the State.

April 9, 1931.

T. P. Woolschlager, N.Y.

AGENTS PLEASED WITH YALE BULLETIN ON "THE ELI
WHITNEY FOREST," IN CONNECTICUT

During the winter, copies of Bulletin 27 of the Yale University School of Forestry "The Eli Whitney Forest - A Demonstration of Forestry Practice". was sent to each of the Eastern agents. These were sent through the help of Mr. J. E. Riley and Dean Graves of the Yale School of Forestry. A number of letters have been received from the agents concerning this bulletin, some of which are given below:

"I received the Bulletin No. 27 entitled "The Eli Whitney Forest". This certainly is a valuable addition to our bulletins and I have read some of it and am deeply impressed with its importance. I wish to thank you for your efforts in our behalf in securing this, and Mr. Riley and Dean Graves should also be sent a vote of thanks."

E. M. Brockway, Mass.

"The Bulletin came during my vacation and I did not give it much time until today. I have not read it all yet but I have read enough to realize that it is a valuable publication as well as a very interesting one. I want to thank you for my copy. It is a welcome addition to my library and worth dozens of the type of bulletins we usually receive."

S. H. Boomer, N. H.

"It is one of the best and most interesting bulletins of its kind I have ever received. It has been studied carefully and much of the information can be used to advantage in connection with blister rust control work."

G. S. Doore, Mass.

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SWAIN'S RIBES HOOK

The men who attended the Littleton Conference last fall will remember the Ribes hook of chilled steel which was shown by Mr. L. C. Swain of Exeter, New Hampshire. This Ribes hook resembles the hook used by men handling baled hay or straw. Since the Washington Office has been unable to get a lower price for making these hooks in Washington than they can be made in New Hampshire, it is suggested that the agents in New Hampshire who need them apply direct to Mr. Newman. If the agents in other States are interested in the matter I would suggest their taking it up through their State Leader who may take the matter up with Mr. Newman. Mr. Newman has informed me that they can supply the Ribes hooks at cost, which amounts to 40¢ apiece, including the steel.

R.G.P.

HODGKINS TO DETERMINE CONDITIONS ON THE MASSACHUSETTS ISLANDS

It may not be generally appreciated that two of the fourteen counties in the State of Massachusetts are islands, or more accurately, group of islands. One unit is the county of Nantucket comprising the single town of the same name, with a total land area of 32,222 acres; the other is the county of Dukes, commonly referred to as Martha's Vineyard, including a group of seven towns (Chilmark, Edgartown, Gayhead, Goswold, Oak Bluffs, Tisbury, and West Tisbury) with a total county area of 71,787 acres. These inslands are situated off the southern coast of Cape Cod (Barnstable County) about twenty-five miles and five miles respectively from the mainland.

The land on Martha's Vineyard "with the exception of a narrow strip along the south shore and of the more exposed areas which are treeless, was originally covered with a fairly heavy growth of conifers and oaks. This growth disappeared soon after the early settlements were made. At present, the island supports on the outwash plain, a dense growth of scrub-oak which persists in spite of repeated devastating fires. On the other terrace areas, the growth consists of erect black-jack or scrub-oak. The hill region, especially the lower northern slopes, and the protected areas, support a growth of oak, scrub-oak, and a scattering of other hardwoods, some pine, cedar, elm, birch, walnut, cherry, and sassafras. In stream bottoms, the growth includes adler and soft maples."

"Nantucket, except in a narrow strip near the north central part where there is some pitch pine, and a fringe of scrub-oak trees which become smaller toward the coast, is devoid of forest."

On both islands, or rather groups of islands, some white pine has been planted, and an occasional native white pine is present. The purpose of Mr. Hodgkins' inspection is to more adequately determine the location of the white pine, to determine something about wild Ribes conditions if possible, and to ascertain whether any rust is present on the few pines that are in existence in these isolated locations.

C. C. Perry, Mass.

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FULTON COUNTY, NEW YORK, STARTS REFORESTATION WORK

Fulton County, New York, will plant 40,000 trees this year to start reforestation in the county forests. The State and the county each bear half the cost of the land. The cost of establishing the forest is also borne jointly by the State and the county. It is planned to plant white and red pine seedlings in alternate rows, 20,000 to be planted of each species. (Extract from the "Leader-Republican" of Gloversville and Johnstown, New York, for March 24, 1931.)

CIRCULAR LETTER BEING DISTRIBUTED TO WHITE-PINE OWNERS IN
WARREN COUNTY, NEW YORK.

March 10, 1931.

Dear Sir:

The future market for white pine is going to be better, that, at least, is indicated by reliable statistics from several sources. Some years ago logs were selling at \$1.25 to \$1.50 per market and only a limited footage could be disposed of; today a fair supply can be disposed of at from \$3.00 to \$4.00 per market, and the price, as well as the demand, is increasing.

One fifth of the total area of Warren County is growing white pine. Authentic figures credit us with not less than 100,000 acres of pine, which runs from 50% to 75%, or more pine, to the stand. Very frequently we hear comments on the exceptional value of virgin timber. In so far as we are now concerned, that is past. However, if the abundant supply of white pine, which we now have is protected and left to grow long enough, it seems reasonable to believe that it eventually will be as good as the virgin crop. Warren County has as much white pine as any other area of similar size. It grows here as well or better than in other places known to the writer. Another thing in its favor: it is troubled less by insects here than in a good many other places.

The timber is not the only value that should be placed upon our white pine. Thousands of people come to our county each summer. They spend thousands of dollars here. They love our lakes, woods and mountains - all of which goes to make up the beautiful scenery by which they are attracted.

We claim Warren County is one of the best places in the world in which to live. It seems, therefore, that we should make every effort to protect the forests that attract our visitors. If we are to continue to grow good crops of white pine, we must protect them from white-pine blister rust. It is up to every white pine owner to lend his assistance in this problem. All crops need more or less attention; therefore, why should our timber growth be neglected?

Blister rust is a disease that will not spread from tree to tree. The currant and gooseberry bushes are alternate hosts. If they are uprooted within and for a distance of 900 feet around the white pine stand, ample protection will be provided. There is one exception to the distance that blister rust will spread from the currant and gooseberry to the white for a pine. The cultivated black currant (Ribes nigrum) can spread the disease distance of one mile. This last species, however, is rather rare in Warren County.

The average cost of uprooting currant and gooseberry bushes varies from twenty-five cents to a dollar or more per acre. The average cost, however, for protecting 43,265 acres in Warren County has been ninety cents per acre, approximately half of which has been shared by the State. The difference in cost is easily brought about by the number of bushes per acre that have to be uprooted, the type of ground covered, etc.

The State will furnish you a reliable and capable man, free of charge, for this work - providing you will arrange to furnish him some help to cover your property. There have been as many as 13,000 acres of pine protected in a season in Warren County. Let's make a better record this year! Your white pine lot needs protection.

I hope you will give this matter prompt consideration. In any event, I will be glad to hear from you either direct or through the Farm Bureau Office.

Very truly yours,

N. H. Harpp,
Blister Rust Agent,
Warrensburg, New York.

Edit: Webster's dictionary gives for the word market "a log 19 inches in diameter at the small end and 13 feet long." Graves & Ziegler give the diameter as "inside bark".

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PRUNING PINE AN AID TO BLISTER-RUST CONTROL

Mr. J. Litchenfels of Madison, Maine, owns about 40 acres of planted pine. There is one lot of about 3 acres that was planted first. He eradicated the gooseberry and currant bushes on his property, and then inquired about pruning this other plantation. To make a long story short, he decided to carry out this pruning project.

One of my agents, who had had experience in pruning, came early in the spring and pruned this lot. It cost \$20.00 since the man received \$5.00 per day and was four days on the lot. Care was taken to leave enough of the branches to protect the trunks against sun scald. On the average the first three whorls were dropped.

I was very much surprised at the number of blister-rust cankers on the limbs that were dropped. These cankers in one or two years more would have been fatal. I firmly believe that at least from 20 to 25 percent of the pines were saved from fatal infections by this process. How many needle infections were destroyed on these dropped limbs will never be known.

John MacG. White, Maine.

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The Western Story Magazine for January 24, 1931, published a small item on blister rust and the necessity for its control, calling attention to the rapid development of the rust in Idaho.

Edit: The West seems to be broadcasting in other ways than through the radio. One of our "down Maine" agents Mr. J. Mac G. White, caught this message and forwarded it to Washington.

PENNSYLVANIA BLISTER RUST NOTES

Nursery Sanitation in Pennsylvania, 1930

The three State Forest Tree Nurseries located at Clearfield, Greenwood, and Mont Alto were reworked for Ribes with a 1,500 foot protective strip during 1930. This work covered a total of 886 acres on which 7,248 wild Ribes were found and destroyed at a cost of \$507.63. The rather large number of Ribes bushes found is due partly to the fact that in some cases the width of the protective strip was increased and thus covered some area that had been worked on the initial eradications.

Protection of Pine Plantations

During 1930, most of the white-pine plantations on State land and a large number of privately owned plantations were examined. A report was made of each examination giving the Ribes conditions in and around the plantations. In the case of State ownership, the areas were listed for eradication according to these examinations, attention usually being given first to any plantations where infection was found on the pine or Ribes. All private owners of plantations where infection was found were given a report of examination, told how to protect their pine by the eradication of the Ribes, and offered all the help the personnel of the Department of Forests and Waters could give them.

Spread of the Disease

The records available show that blister-rust infections on pine were present at the beginning of 1930 in 27 of the 67 counties in the State. Additional scouting by the personnel employed by the Department of Forests and Waters and the U. S. Department of Agriculture during 1930 located pine infection in three additional counties as follows: Schuylkill County, Reilley Township; Clearfield County, Houston Township; and Somerset County, Lincoln Township.

In addition to these areas, many new pine infection areas were found in counties where rust was known to be present at the first of the year. These additional areas were found in practically all sections of the State. Probably the most startling infection area reported was in Quincy Township, Franklin County. Mr. L. W. Hodgkins reported this infection area in June 1930. This infection on pine and Ribes was found in a State plantation at Glen Furney about four or five miles from the Maryland line. The pine infections date back to about 1917 which is much earlier than any other infections found previously in the southern part of the State.

The presence of the blister-rust disease in the many areas where infection has been found shows that the disease is well established over practically the entire State and that we can be almost certain of finding it in any region in Pennsylvania where the white-pine - Ribes association may be found.

Reported by R. P. Fatzinger.

(Extract from the Pennsylvania Annual Report for 1930.)

NEW YORK AGENTS HOLD ANNUAL SPRING CONFERENCE

The blister-rust agents of New York State held their annual spring conference in Albany, March 19 and 20. All the agents were present. The meeting was called by Mr. McIntyre who acted as chairman on Thursday.

Mr. Howard, Superintendent of State Lands and Forests gave the opening address and explained in some detail the present status of the Hewitt Amendment which is expected to be voted upon by the people of the State this fall. With this amendment in effect, New York State will have a continuous reforestation program for 15 years, second to none in the United States. The amendment will provide the sum of nineteen million dollars to be used over a period of fifteen years to purchase abandoned land and reforest the same in contiguous areas of not less than five hundred acres. It also proposes to utilize the abandoned farm lands outside of the Park areas in the forest preserve counties for production forests. It is estimated that there are two million acres of land that can be acquired for production forests by the State in blocks of not less than five hundred acres. Smaller sized areas may be taken over by the counties on the county-aid plan whereby the State will match dollar for dollar of county money up to five thousand dollars a year. The county aid plan and the production forests by the State will, without doubt, largely solve the abandoned land question in the Empire State. The State Park lines will be extended to the Adirondacks so that the new Park will contain over four and one-half million acres - the largest Park in the United States. Mr. Howard stated that fifty thousand acres of land under the Hewitt plan had already been acquired and that it was planned to plant fifteen thousand acres of this this spring. Several large areas have already been reforested in six counties in 1929 and 1930. Apparently blister-rust control work in this State is only nicely started.

Following Mr. Howard's address the new Conservation Commissioner, Mr. Henry Morgenthau, Jr., was introduced to the men. Mr. Morgenthau expressed the hope that he might be able to spend some time in the field with the agents a little later on.

Dr. Ladd, Deputy Commissioner, was the next speaker. He prophesied some of the problems which undoubtedly would come from the enlarged reforestation program saying that a concentration of forest plantings would no doubt bring in new problems and enlarge the old ones the same as with the concentration of farm crops and animals. Dr. Ladd expressed his faith in the work of the blister-rust men and believed much good was being accomplished.

Mr. McIntyre made a brief resume of the work done at the Albany office this winter in the way of compiling summaries for all eradication work from 1923 to 1930 inclusive. He also mentioned the results of blister-rust meetings with the County Board of Supervisors in Warren and Essex Counties which he attended during the winter. He stressed the advisability of concentrating our efforts on initial eradication at present. The matter of extending the system of scout eradication on certain areas was favorably discussed.

On Friday Mr. Filler of the Boston Office gave an interesting talk and timely suggestions on new ideas and procedure in control work. The three maps of the State which he showed on the distribution of pine and the eradication work accomplished in the respective towns were very good. Mr. Filler complimented the men on their woodland maps and heartily approved of the New York system of obtaining pine data by this method.

Dr. Martin of the Washington Office was present. In the afternoon he described briefly the results of chemical eradication of Ribes and discussed its application to New York conditions. He also gave some interesting sidelights on the blister-rust situation in the Inland Empire. Dr. Martin asked for a report on blister-rust conditions from each agent's district. His remarks and suggestions regarding the reports of the agents were very helpful indeed.

Somewhere during the meeting the matter of making a decision on whether or not we should continue to use the word "reeradication" was finally terminated by everybody in favor of retaining the word. So very likely from now on the New York men will use this corruption. It is understood at the meeting that the Washington office was in favor also of keeping the word until a better one was found. (Ye Editor, how about it?)

It was decided that as a fitting climax to this inspiring and enjoyable conference the men join in an informal dinner party at Jack's restaurant. Accordingly Mr. McIntyre made reservations on the top floor where we would be entirely by ourselves. Sixteen were present. As welcome guests to the party were Mr. Howard, Mr. Rankin, Mr. Littlefield, Dr. Martin, and Mr. Filler. After a hearty repast Mr. McIntyre acted as toastmaster and started the ball rolling by relating some of his experiences as a traveling salesman or something of the sort. Dunc Rankin gave an interesting talk on land acquisition under the Hewitt amendment and others followed like lambs led to the slaughter. It was apparent that the experiences encountered while in pursuit of the wily "Ribe" were many and varied. But it was generally held that Raym Paige met with the most unusual experiences of any. All enjoyed the songs led by Littlefield at the piano.

H. G. Strait, N. Y.

Edit: Strait's remarks on the word "reeradication" call for a comment. Since this term does not appear in Webster's dictionary it appears to me that the remark of the countryman who saw a giraffe in the Museum for the first time and said "there ain't no sech animal", is quite apropos.

MORE COMMENTS ON THE NEW YORK CONFERENCE

Conferences or "get togethers" of some sort are necessary in any organization. They are especially beneficial and instructive to the new agents like myself. Aside from getting better acquainted among ourselves, and with men from the Boston and Washington Offices, these open meetings serve as a clearing house for State and district blister-rust problems. An inventory of work for the past is given, and plans for the present and future are outlined. Problems common to us all can be discussed from all possible angles by the men present. Thus we get a broader view point and a better understanding of our work.

T. P. Woolschlager, N. Y.

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WHITE PINE IN THE SOUTHERN APPALACHIANS
(With Notes on Ribes Distribution)

(Continued from the March Issue)

Virginia

White pine in Virginia lies in 3 great drainage systems, along the Shenandoah, the James, and the New Rivers. The pines in the first area lie almost wholly in the Shenandoah National Forest. In the second, the Natural Bridge National Forest embraces part of the Pedlar River pines lying east of the Blue Ridge, while the Calf Pasture, Cow Pasture and Bull Pasture Rivers, tributaries of the James, have considerable white pine on their lower slopes. Part of this white pine lies within the south end of the Shenandoah National Forest. Floyd and Carroll Counties include the third pine area. Here on a high plateau about 2,800 feet in elevation, white pine is abundant in mixture with the oaks or in pure stands of immature trees on old fields. Ribes are so scarce in this third area that only one bush was found.

In the white-pine areas in the Natural Bridge National Forest, Ribes are practically absent, though occasional gooseberry bushes have been found. In the Shenandoah National Forest Ribes are present in abundance in some valleys, though absent in others. Eradication of Ribes has already been carried on in this Forest on over 1,000 acres in Augusta County. (Edit. - In the North River and Little River watersheds, and on Home Quarry Branch three species of gooseberries, cynosbati, rotundifolium and hirtellum were found by Pierce in the white-pine zone.)

On White Face Mt. in southwest Virginia, which reaches an elevation of 5,260 feet, are seen three Ribes in their altitudinal requirements. Skunk currant, R. glandulosum, was found only on the summit, R. rotundifolium was found between 3,000 and 5,000 feet, and R. cynosbati between 1,500 and 3,000 feet.

Tennessee

In Unicoi County, adjoining North Carolina, in a 10,000 acre tract of virgin timber a cruise indicated 4% white pine by volume. In a second tract of 22,000 acres in that County there are 12 million feet of white pine representing about 8% of the stand by volume. Outside of these 2 tracts most of the white pine is a scattering of younger age classes in the Unaka and Pisgah National Forests.

In Polk County adjoining North Carolina and Georgia there is considerable white pine in the Cherokee National Forest south of the Hiwassee River. The copper smelters of Ducktown have injured considerable timber on the east slopes of Big Frog and Little Frog Mountains through their fumes.

White pine has been found to be among the more susceptible species to logging damage from sulphur fumes. In the Hiwassee Ranger District there are two units in virgin timber, with white pine representing from 4 to 13 % of the stand by volume. In these units the Forest Service is planning to conduct timber sales with a view to securing some white pine in the next crop.

The Cumberland Plateau has some white pines left, but not in virgin stands. Here fire is the greatest menace of the white pine.

As for Ribes Mr. Cope did not see a single bush in Tennessee though diligent search was made for the genus. Dr. Essary, botanist at the University of Tennessee, confirms text book data on R. cynosbati, that it may be found in the Great Smokies at high elevations for he had found it above 4,000 feet on Clingman Dome and other peaks. Dr. Essary reports that no Ribes occur on the Cumberland Plateau. None of the Forest officers on the Cherokee and Unaka Forests have ever seen Ribes in the white pine zone.

(To be Continued)

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BLISTER--RUST INFECTION AREA ON THE MENOMINEE INDIAN RESERVATION CROSSES THE LINE INTO OCONTO COUNTY, WISCONSIN

We have just located a new pine infection. If it is not entirely new it is at least new to the county of Oconto. The area is in the extreme southwestern corner of the county and on Menominee Indian Reservation land. Evidently it is the result of an enlargement of the original infection which was discovered across the river from Keshena village in 1918. This old infection at Keshena in Shawano County is about 3 miles northwest of the infection found today in Oconto County. The needles of most of the trees still retain a pale-green color. However, on a few trees which were infected somewhat earlier a distinct "flag" was seen. By far the greatest number of infections were on 1926 wood but a few dated as far back as 1924. The infected trees ranged from 1 to 15 feet in height and were covered, wholly or in part, by an overstory of white pine and in some areas merely with aspen. The Ribes were cynosbati and americanum predominating. It is interesting to know that the Reservation protected about 300 acres of pine last year between the Keshena infection and the one just discovered. However, there has been no eradication on the new area. Work ahead!

T. F. Kouba, Wisc.

NEWS ITEMS FROM RHODE ISLAND

New Infection Areas Found

While Rhode Island has had few badly infected white pine areas with disease causing commercial damage, the fact that white-pine blister rust infections on pine are scattered throughout the State was once more proven in the field studies made by Mr. L. W. Hodgkins and Mr. A. W. Hurford during a limited scouting period in January.

On January 28, 29 and 30, blister-rust infections on pine were found in the towns of Glocester, Scituate and Barrington. A pine area in Charlestown where Mr. Hurford located an infection in December of last year was scouted more thoroughly but no further infection was found. This is considered fortunate since the white pine on this property is quite valuable. The most important infection area found is located in a white-pine grove of several acres near Martin Avenue, Barrington. Trunk cankers and branch infections were found scattered over more than an acre of the stand. A few trees were found to have been already killed by the disease. On the individual trees inspected, infections were found to be dated from 1919 to 1927. Other infections were seen but not recorded. Many cultivated black currants were removed from nearby gardens in the vicinity of these pines during 1930. A few other cultivated Ribes are still growing close to this area and will be inspected for disease this year. This infection area is of interest from the standpoint of showing the damage that may be brought about through the presence of many European black currants, which allowed the establishment of the local center of infection. The finding of spot-pine infections as well as infection areas is always an incentive to greater effort in establishing white-pine blister rust control, since the presence of such infection brings home the need for protection more than any other factor.

Black-Currant Eradication

An early start has been made this year on the European black-currant eradication project. A crew of three men started work on Monday, March 30. To date they have eradicated all black currant bushes located but not destroyed last fall in the towns of Portsmouth, Little Compton, and Tiverton. An effort will be made to complete the European black-currant eradication project during the present calendar year. Early rechecking of initially eradicated pine areas for both wild and cultivated currants and gooseberries is needed, and there is a possibility of starting this work during the latter part of the year.

Forestry Legislation

Several forestry acts now being considered by the Rhode Island State Legislature will, if passed, allow the development of a more extensive forestry program in this State, as well as create more interest in forest protection. One act of special interest will authorize the Rhode Island Depart-

ment of Agriculture to accept land for forest demonstration purposes. White-pine blister rust control will be one of several protection measures taken as soon as the State acquires any white pine land. From the educational standpoint a State demonstration forest will allow the development of more public interest in forest protection than would otherwise be possible.

A. W. Hurford, R. I.

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PHENOLOGICAL DATA

Mr. D. J. Stouffer of Michigan writes under date of April 11:

"Agent Thompson and I were in the field for about two hours yesterday just here in the vicinity of Lansing and observed several different species of Ribes and found one flowering currant in the Botanical Garden at the College which had produced about 1/4 to 1/2 inch leaves. Several others were carrying swelling buds which were nearly ready to burst. It certainly looks like an early season this year."

Mr. L. E. Newman of New Hampshire writes:

"Thursday, April 9th, I was over in the town of Newfields with Swain and we ran across a pine on which the fruiting bodies were just beginning to push through the bark. While this is not a record date in New Hampshire, still it is the first appearance of the blisters that I have seen so far this year."

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EARLY RECORDS FROM SOUTH EASTERN MASSACHUSETTS

April 2, 1931

First Forest Fire

The first forest fire of the season was noted today in the town of Bridgewater. The particular area had been previously mapped for reexamination for Ribes this spring, but fifty acres of the pine were destroyed.

First Aecia

The first aecia of the 1931 season was noted today at the Ames Estate in the village of North Easton.

E. M. Brockway, Mass.

KNOWN RANGE OF CANADA GOOSEBERRY EXTENDED
TO INCLUDE MINNESOTA.

The range of the Canada gooseberry, Ribes oxycanthoides L., has included in the United States only northern Michigan, North Dakota and Montana. This has been given by Coville and Britton in "North American Flora", Vol. 22, Pt. 3, June 1908. Recently it has been necessary to look over the herbarium specimens in the Office of Blister Rust Control. Specimens from Ely, Minnesota, in northeastern St. Louis County, about 20 miles from the Canadian line, which had been labeled by the writer Ribes hirtellum at the time of his collection in September, 1919, were found upon close examination and comparison with specimens in the National Herbarium to be identical with Ribes oxycanthoides L. It will be of interest to blister-rust control workers in the Lake States to know of this extension of the known range of the Canada gooseberry to include Minnesota for it is likely that they may have classified all of the smooth gooseberries of the northern sections of their States as the wedgeleaf gooseberry, as did the writer.

A specimen of Ribes oxycanthoides L. was found recently in the U. S. National Herbarium at Washington, collected by C. O. Rosendahl and F. K. Butters, "along edge of forest near mouth of Carribeau River, shores of Lake Superior", June 29, 1924. This is about 16 miles southwest of Grand Marais, Minnesota.

Further corroboration of the presence of Ribes oxycanthoides L. in Minnesota is found in the Ribes collection at the University of Minnesota. Professor C. O. Rosendahl in letter of February 10, 1930, states they have specimens at the University of Minnesota of R. oxycanthoides from Carribeau River, Brule River, Grand Marais, Grand Portage, Wausaugoning Bay and Gunflint Lake, all in Cook County; two specimens from Carlton County; Shoal Lake near Lake of the Woods; and Big Pine Lake at Perham in Otter Tail County.

Not only is our knowledge of the range of Ribes oxycanthoides thus extended to include Minnesota but it should also include the southern peninsula of Michigan. Professor Ehlers of the University of Michigan, who called our attention to the fact that hudsonianum had been discovered earlier in Michigan (See February News Letter, page 33), is also partly responsible for the extension of the known range of oxycanthoides in Michigan. In the article "Plants of the Douglas Lake Region" by Gates and Ehlers, oxycanthoides is listed as being found in the wet woods west of Pellston, in Emmet County. We can be sure he has in mind the more restricted use of the specific name oxycanthoides, since he also lists G. hirtella (Michx.) Spach, as being present in Reese's Bog in Cheboygan County.

Since oxycanthoides has been collected also in northern Michigan, and in Carlton County, Minnesota, both adjacent to Wisconsin, it is likely that this species may be found in Wisconsin. Mr. Kouba has just made an inquiry at the Botany Departments of the Wisconsin State University and the Milwaukee Public Museum for this species but up to the present R. oxycanthoides L.

has not been reported. However, as Professor J. J. Davis, Botanist at the University of Wisconsin, writes:

"I know of no Wisconsin specimens of Ribes oxycanthoides as distinguished from R. hirtellum. I suspect that the blister rust doesn't know the difference."

What are the distinguishing characters of the Canada gooseberry? How can it be separated from the wedgeleaf gooseberry R. hirtellum, which was formerly classed with R. oxycanthoides? Those characters which distinguish the Canada gooseberry are the general appearance of very bristly branches, the stout nodal spines in threes about 1 cm. long, the appearance of the leaves which vary from truncated or square-cut base to slightly heart-shaped, and gray to light tan bark on the new wood. On the other hand the branches of the wedgeleaf gooseberry are not bristly except sometimes at the base; nodal spines usually lacking; leaves usually with a decidedly cuneate or wedge-shaped base, though on the short lateral shoots they may be more heart-shaped at base.

April 1, 1931

Roy G. Pierce.

- - - - -

SERIOUS DAMAGE BEING DONE TO WHITE PINE IN LINCOLN COUNTY, MAINE.

Beginning this year the State will add fifty percent to the amount raised by the town, the total sum to be spent by employing a trained crew of 3 to 5 men to remove the currant and gooseberry bushes that are within 900 feet of the pine growth. Owners will not be required to furnish labor or funds, the control work being done entirely by the State and cooperating town. In addition the State will furnish a trained man to do the necessary scouting and supervisory work.

Great damage is being done to the pine growth in every town in Lincoln County. In fact, the disease has spread so rapidly that every lot where white pine are growing contains numerous trees that are either dead or dying from this rust. Shall we allow this to continue, or shall we stop it?

The reproduction of white pine or planting of white pine will be seriously affected, so long as currant and gooseberry bushes are growing close by. Why not give these trees a chance? Why not protect them before it is too late, before they arrive at that stage of destruction similar to those on the Wawenock Country Club in South Bristol, Metcalf or Round Top areas in Damariscotta or Hill area in Newcastle, and numerous other heavily infected areas in these and nearby towns? Many of these areas have now been protected, many others have not and in these latter, the destruction is going on each year.

Maine Forest Service and U. S. Department of Agriculture.

G. H. Kimball, District Agent, Auburn.

(Extract from the "Lincoln County (Me.) News" for March 19, 1931.)

ACCIDENTS

The beginning of the field season is a good time to think about preventing accidents and injuries to employees. Let us all try to avoid accidents. More accidents occur in blister-rust control work than in the work of any other office in the Bureau. At first thought one would not consider eradicating Ribes as particularly hazardous, but look over the following summary of accidents and form your own opinion:

5 Cases - EYES:

- 1926: Cranking automobile, hit in right eye by crank, causing severe cut.
- 1927: Shoeing a horse, part of shoe flew in eye, affecting eyeball.
- 1929: Branch struck eyeball, causing thorn to penetrate pupil.
- 1930: Thorn broke off branch, hitting eye, causing irritation.
Twig snapped, hitting eye, causing infection.

* * *

19 Cases - HANDS:

- 1924: Axe handle hit left hand while chopping bushes, cutting it severely.
- 1925: Slipped, getting splinter in hand, causing it to become infected.
- 1926: Chopping bushes when axe handle slipped, cutting left hand severely.
- 1927: Infection caused in hand, opening bottle with can opener.
Infection from sliver in hand while pulling Ribes.
- 1928: Cut hand with pick, causing infection.
Pump leaked, causing spray to burn hands.
Infection caused by scratched thumb, handling hose line.
Severe burns on hand due to friction of chemicals.
Cranking car, slipped off pin, handle hitting hand, causing gashes.
Opening can of food, cut finger which later became infected.
Cranking government car, backfired, cutting hand.
Cutting wood, axe threw wood against hand, cutting it severely.
Currant bush bruised hand, spraining it.
Blister on hand broke, causing infection.
- 1929: Hand swollen due to insect poisoning.
Hand infected from bee-stings.
- 1930: Infected hand from thorns entering middle finger.
Infection caused by blister while pulling Ribes - requiring lancing.

* * *

5 Cases - FOOT

- 1925: Infection of toe, caused by stepping on windfall.
Blister on toe where shoe rubbed foot, causing infection.
- 1927: Chopping tree, axe slipped, cutting both feet.
- 1928: Blister caused blood-poisoning by rubbing of shoe.
- 1929: Pulled tendon when stepping on windfall.

* * *

8 Cases - LEGS

- 1925: Cut leg with axe while cutting bushes.
Jumping from logs, fell and hit snag, causing infection to leg.
Hatchet slipped while chopping bushes, cutting leg, severing main vein.

- 1926: Riding motor cycle on official business, hit post, bruising leg.
1928: Chemical on clothing caught fire, burning legs severely.
Fell on log, hitting leg, and infection set in.
Severe burns on legs due to friction of clothing saturated with chemical.
1929: Infection on both legs caused from scratches of brush.

* * *

3 Cases - WRISTS SPRAINED:

- 1924: 2 cases.
1925: 1 case.

* * *

4 Cases - FACE INJURED:

- 1927: Fell and skinned face while carrying supplies down stairs.
1929: Lip swollen due to insect bites.
Axe slipped and cut forehead.
1930: Oil burns on face due to chemical blown in face by wind.

* * *

10 Cases - ANKLE SPRAINED

- 1924: 3 cases.
1925: 4 cases.
1926: 1 case.
Infection in ankle caused by hill climbing and continual rubbing.
1927: 1 case.

* * *

10 Cases - MISCELLANEOUS

- 1927: Complete body burned, due to clothes satuated with chemicals.
1928: Kidney infection caused by slipping on log.
Arm infected, due to insect poisoning.
2 cases of rupture from pulling Ribes.
1929: Complete poisoning from insects.
Complete poisoning, working near poisoned oak.
Abscessed spine, caused by slipping on log.
Dislocated vertebrae, neck affected when auto hit rough spot in road.
1930: 1 case of hernia from lifting heavy articles.
1 case of strained groin while pulling Ribes.

* * *

TOTAL - 65 CASES.

Many of these injuries are minor if promptly treated, but all are more or less painful and dangerous if untreated. Perhaps some could have been prevented by promptness in disinfecting cuts and the exercise of more care in the field. Arrangements have been made to provide our field units with suitable first aid kits for emergency use in disinfecting cuts and treating injuries that may be received in the prosecutions of field activities.

In regions infested with poisonous snakes our leaders will be furnished with anti-venim for treatment of snake-bites. Field men should be on the alert when working in areas known to be infested with snakes and exercise every care to avoid being bitten. Also canvas or leather puttees, or suitable high leather "boots" should be worn as a protective measure.

Rocky Mountain Spotted fever is known to occur occasionally in the Inland Empire where control work will be carried on this season on an extensive scale. Provision has been made through the public Health Service whereby our western field personnel may be vaccinated against this disease free of charge if they wish to take such treatment.

All accidents and incuries incurred on official work should be promptly reported on the forms provided for that purpose by the U. S. Employees Compensation Commission.

J. F. Martin.

- - - - -
RESOURCEFULLNESS

Agent Roop of Massachusetts qualified in woodcraft today (March 20) when he fashioned a pair of snowshoes from white pine branches, and actually walked on them and stayed on top of the snow. His appearance resembled a huge bird provided with an abundance of feathers on its feet.

The occasion for the make-shift snowshoes was a scouting trip to the town of Ashby, Massachusetts, where much to our surprise we found 3 feet of snow on the level, and much more in places. We had been scouting for infection in the towns in the immediate vicinity of Boston where snow was not a factor, and were surprised to find the arctic conditions at the New Hampshire line.

The immediate purpose of our trip was to determine infection conditions in the town, and to select a site for a possible natural demonstration area for educational purposes. Snow conditions prevented us from accomplishing our full purpose because it was impossible to determine infection conditions below the snow line. We did find considerable infection, however, with cankers dating from 1919-1926 in a stand in a splendid location for demonstration purposes. Ashby is one of the towns on Agent Roop's list for initial control work during the 1931 field season. It seemed to me that this perhaps trifling incident was a splendid illustration of the resourcefulness which I find so evident among the blister-rust control agents.

L. W. Hodgkins, Mass.

DEPLETION OF NORTHERN WHITE PINE AND SPRUCE FORESTS
PICTURED BEFORE TARIFF COMMISSION.

Washington Bureau of the Minneapolis Journal, Washington, March 20.-- Depletion of the American northern white pine and spruce forests was pictured to the United States Tariff Commission today by J. P. Hennessy and D. P. Larson, vice president and controller, respectively, of the Shevlin, Carpenter & Clark Company, of Minneapolis, and D. J. Winton and R. C. Winten of Minneapolis, representing the British Columbia Spruce Mills, the Eagle Lake Spruce Mills and the Pas Lumber Company.

They argued these woods, now so hard to obtain in the United States, are utilized in a highly specialized industry in the United States, and do not compete with the ordinary soft woods in the usual construction work. Because of this, they contended, the importation of them from Canada should not be subjected to the American tariff. They asked for a reduction of 50 per cent in the present duty of \$1 a thousand feet under the flexible provisions.

Mr. Hennessy and Mr. Larson declared there is only one real stand of virgin northern white pine left in the country, and that is in northeastern Minnesota. Negligible stands are found in Wisconsin and Michigan. They declared this wood is used in the making of sash and doors, blinds, for pattern making and silos, and does not compete with other soft woods.

Mr. Larson also declared the costs of construction on the Canadian side are greater than on the American, and consequently the \$1 tariff is a discrimination against the importers in the American markets.

D. J. Winton explained the American supply of spruce is much too short to meet the normal demand. There is a serious need for the Canadian material in many American industries, he said.

Sent in by L. B. Ritter, Minnesota.

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CHESTNUT BLIGHT

Messrs. J. F. Gravatt and L. S. Gill of the Office of Forest Pathology published this past year Farmers' Bulletin 1641 on Chestnut Blight. This gives a general discussion of the chestnut-blight situation and problem, considering spread, distribution, symptoms, the causal organism, deterioration of wood, utilization of blight-killed trees, and finally the possibilities of growing blight-resistant chestnuts.

Edit: If you do not have a copy of this bulletin I would suggest that you request it from the Office of Information, U. S. Department of Agriculture, Washington, D. C.

OFFICE COMMENT

GOVERNMENT BILL OF LADING

In some instances common carriers have refused to accept for transportation Department material under the standard Government bill of lading, Form 1058, without the cancellation of Section 7 of "Conditions" on the reverse of the form. This section reads as follows:

"In case of loss, damage or shrinkage in transit, the rules and conditions governing commercial shipments shall not apply as to period within which notice thereof shall be given the carriers or to period within which claim therefor shall be made or suit instituted."

Employees who have occasion to issue Government bills of lading should, in case of a specific refusal by transportation companies, cancel the Section 7 in question, and annex thereto and sign with their official titles, a marginal note as follows:

"Cancelled prior to execution under authority of the Secretary of Agriculture."

The cancellation of this section should be confined to cases only where the carrier makes objection at the time the shipment is made.

H. P. Avery.

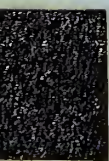
AMONG OURSELVES

Dr. J. F. Martin returned to Washington April 4th from a field trip of several weeks through the Northeastern States.

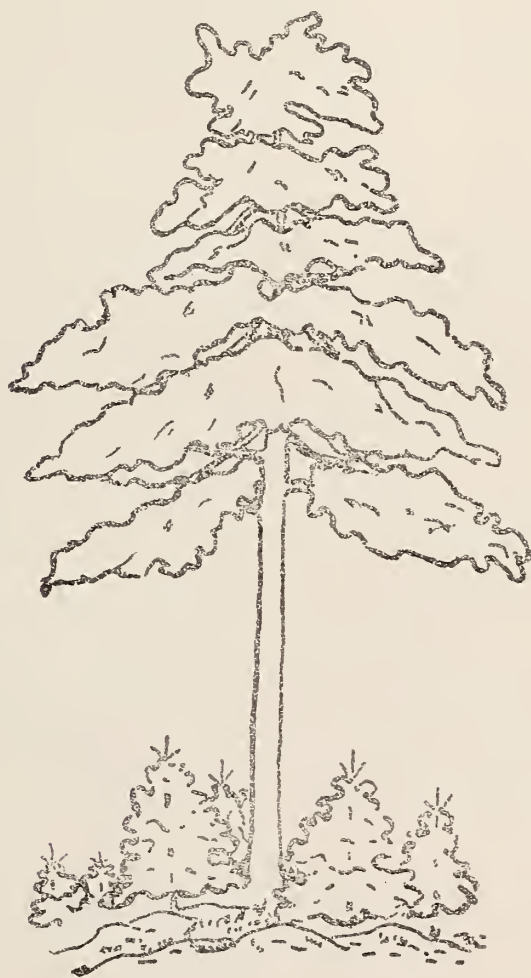
We are very glad to report that Mr. Joshua Thompson of the Washington Office and Mr. Wm. Clave, agent at Worcester, Massachusetts, have returned to work after severe sieges with pneumonia.

An announcement of the birth of a son, Edgar Lee, was recently received from Mr. and Mrs. Edgar Holland. Congratulations. "Eddie" Holland was formerly Accounting Clerk in the Washington Office.

Mrs. C. J. Photis, stenographer in this Office, is a surgical patient at Columbia Hospital in Washington. The Office wishes her a speedy recovery.



THE BLISTER RUST NEWS



FILED
To be removed

May, 1931.

Volume XV

Number 5

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
OFFICE of BLISTER RUST CONTROL

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Division of Blister Rust Control
and Cooperating States

Vol. 15, No. 5

May, 1931.

AGENT BROCKWAY OF MASSACHUSETTS COMPLETES BLACK-CURRENT
LOCATION WORK IN HIS DISTRICT.

At the close of the 1930 field season there remained two townships in the southeastern Massachusetts district in which the black-currant eradication project had not been initiated. These were the town of Milton and the city of Quincy. During the winter as opportunity permitted we have been canvassing these two townships to locate black currants and solicit their removal. On April 1st we completed the assignment with the following results:

	<u>Milton</u>	<u>Quincy</u>
No. of properties inspected	3,648	16,995
No. of owners involved	108	350
No. of black currants found	618	1,963

According to our plan of procedure in Massachusetts the owner is requested to remove the Ribes himself, and a return postal card is left with each owner. The return cards are just beginning to come in rapidly now. In fact, in Milton we have received word that 68 of the 108 owners have already disposed of their black currants. In Quincy the showing is not quite as good, but 91 out of a total of 350 have been received thus far.

All the locations will be checked later to be certain that the plants have been properly uprooted and disposed of. It has been our experience that a much better feeling prevails when the owners are permitted to remove their own bushes.

April 6, 1931.

E. M. Brockway, Mass.

APRIL IN MASSACHUSETTS

- April 1: Agent Brockway completed black-currant location work in southeastern Massachusetts. During the winter, inspections in Quincy and Milton resulted in locating 2,581 black currants in 458 patches. More than 20,000 properties were inspected during the course of this work.
- April 2: First aecia for the 1931 season noted by Agent Brockway at the Ames Estate in the village of North Easton, Bristol County.
- April 6: Aecia found by Agent Roop in plantation of the Metropolitan Water Supply Commission in the town of Southboro, Worcester County.
- April 9: Nursery sanitation work resumed. Rechecking black currant mile-zones in the environs of nurseries in Framingham, Middlesex County.
- April 10: Specimens of Ribes, particularly R. cereum and R. orientale in one-half leaf at the Arnold Arboretum, Jamaica Plain (Boston) Suffolk County.
- April 15: Aecia reported by Agent Clave in Barre, Worcester County.
- April 20: "Patriot's Day" Ribes eradication field season opened in District I-II (Northeastern); III-IV (Southeastern); VII & IX (Franklin-Hampshire (North) - Berkshire); and VIII (Hampshire (South)-Hampden).
- April 21: Agent Doore reported that aeciospores were being freely liberated at Great Barrington, Berkshire County. From all appearances the aecia had been open for several days. Buds on both wild and cultivated Ribes had unfolded sufficiently to disclose the leaf form. Field conditions apparently unusually favorable for early Ribes eradication work.
- April 24: Governor Ely signs the annual budget bill containing the appropriation for blister-rust control for the State fiscal year ending November 30, 1931.

Aecia observed by the State Leader at the Crane infection plot in Ipswich, Essex County. A few specimens of R. hirtellum in half-leaf found at a point some distance from the study plot. On the same date an examination of infected pines remaining on the Atkinson Common infection area in Newburyport, Essex County, failed to reveal any aecial development at that time.

Annual inspection of white pine stock in commercial nurseries started. First inspections at Framingham, Middlesex County.

- April 27: Ribes eradication field season opened in District V-VI (Worcester).

April 29: Aecia observed by State Leader in Ashby, Middlesex County, and Ashburnham, Worcester County. At the location in Ashby, skunk currants were found in one-quarter leaf. Snow patches were found persisting on this tract, and while the observations were being made, "the weather ran through its whole bag of New England tricks producing a variety ranging through hail, snow, rain, and warm sunshine" as our favorite newspaper expressed it the following morning.

April 30: Much of the time during the opening days of the field season was devoted to training new men, preliminary scouting, erecting demonstrations, and inspecting infection areas. In addition to these pre-season activities, the reports for the month indicated that in regular control work, examinations were made on 6,565 acres of land from which 18,469 wild Ribes and 49 cultivated Ribes were removed. In special black-currant location and eradication work 5,054 properties were inspected, 33 patches of black currants found, and 294 such plants destroyed.

C. C. Perry, Mass.

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"PATRIOTS DAY" OPENS BLACK-CURRANT ERADICATION
SEASON IN THE BERKSHIRES.

Patriots Day, a State holiday in Massachusetts was celebrated April 20th. Our part in the festivities consisted of opening the field season in southern Berkshire County. Practically all of our efforts this season will be devoted to canvassing for and destroying all Ribes nigrum in Berkshire and Franklin Counties.

At the close of work April 30, the present force of three experienced men have completely canvassed the following towns: Great Barrington, Egremont, Alford, and Greenfield. Briefly the results are as follows:

Total number of towns completed.....	4
Total acreage in the 4 towns	62,830
Total population	22,147
Total miles of road	280
Total number of properties inspected	4,072
Total patches of <u>nigrum</u> located	12
Total number of bushes	63

G. S. Doore, Mass.

FAVORABLE COMMENTS ON SWAIN'S RIBES HOOK

Mr. Roy G. Pierce, who has been engaged recently in eradicating Ribes around the Forest Service Nursery at Parsons, West Virginia, comments very favorably on the Ribes hook of chilled tube steel which was shown by Agent L. C. Swain of New Hampshire at the Littleton Conference last fall. He writes under date of May 1, as follows:

"Swain's Ribes hook is a winner; not only does it hook 'em out of the ground, but it doesn't get tangled up with the grapevines, green briers, down timber, etc. Hats off to Swain for producing something practical, particularly in rocky, hilly country. I used the pick to dig out the rocks to get down to the Ribes roots, then one good tug would remove the bush. I also found it good in climbing a 30 to 40% grade and steeper ones, the hook being used to get a hold on a root or tree trunk above me. Thirdly, the Swain hook is good for digging out bushes with one hand on rock ledges below you, while you hold on to a root or a tree with the other hand."

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H. T. W.

HAY HOOKS PROVE SATISFACTORY FOR PULLING RIBES

Agent Swain of New Hampshire displayed with some pride at the conference at Littleton last fall, a hook for pulling Ribes which he had had made by a blacksmith.

I bought a half dozen wooden-handled hay hooks this spring, and took about half an inch of the bend out of them in a vice. I have used these hooks for a week now and like them much better than the regular Ribes pick. We have found very few bushes too big to handle with them, and we are working where R. cynosbati and R. missouriense are man-sized.

These hooks are very light and can be carried by slipping them through a belt loop when not in use. Last but not least, they cost only a few cents more than pick handles cost.

L. B. Ritter, Minnesota.

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NEW PINE INFECTION AREA FOUND IN WISCONSIN

State Leader T. F. Kouba, in letter of May 4, writes:

"We have discovered a new pine infection area east of Durand in Pepin County. This, however, is no more than natural since Ribes were found infected in that county several years ago. A five-year-old canker was the oldest found on the area."

COMPARISON OF ERADICATION WORK IN WOLFEBORO,
NEW HAMPSHIRE, 1918 AND 1928.

Initial eradication in 1918 and the reworking in 1928, in Wolfeboro, New Hampshire, covered the same blocks except that we did not have quite enough money to complete the 1918 area by about 100 acres.

<u>Year</u>	<u>Area in Acres</u>	<u>Ribes</u>	<u>Bushes Per Acre</u>	<u>Money Expended</u>	<u>Cost Per Acre</u>
1918	2,080	22,673	10.9	\$908.11	.43
1928	1,956	8,252	4.2	\$497.04	.25

These blocks were worked the second time by a very good crew and very few Ribes were missed. The type had changed some and probably some areas were worked that were eliminated in the first working. The above figures show a marked reduction in cost and in the number of Ribes found in 1928, there being but 36.4% as many Ribes in the second working as in the first.

In the working of this area in 1928 we found about half the Ribes in the runs to be hirtellum. As most of the runs were growing hardwoods with pine on the higher ground surrounding them, infection was not plentiful. In one block near a brook a large number of gooseberry bushes were found in a place where the wind could sweep the spores up a hill and through a pasture growing up to young pines. This was the worst infection area. Another infection area was caused by skunk currants in a cutover lot coming up to hardwood and pine. About 1,200 escaped cultivated currant bushes, all lightly infected, were pulled.

It is rather difficult to compare results of 1918 and 1928 as changing types increased the Ribes population. On one cordwood area which was newly cut, we found a large number of small currant and gooseberry bushes. Some of the Ribes found were quite large but they will grow considerably in ten years. The quality of the work in 1918 was, I believe, consistent with the length of time it had been carried on.

The following table gives detailed information concerning the blocks worked in 1928:

<u>Block No.</u>	<u>Ribes</u>	<u>Pine Infections Reported</u>	<u>Acreage</u>
1	1,604	27	522
2	1,732	61	610
3	41	1	64
4	767	8	128
5	87	2	96
6	0	0	42
7	428	1	47
8	950	0	60
9	638	0	35
10	<u>2,005</u>	<u>6</u>	<u>352</u>
	8,252	106	1,956

PHENOLOGICAL DATA

Dr. Ray R. Hirt of New York in letter of April 19th, writes:

"Some aecia are mature on forest trees of Warrensburg and I saw some Ribes leaves opening up."

* * *

Mr. J. E. Riley, State Leader in Connecticut, states:

"Was in the field Saturday (April 18) and found a few aecia just appearing."

* * *

Agent L. W. Hodgkins of Massachusetts reports that he saw blister rust fruiting on April 15th at the Martin Avenue Area in Barrington, Rhode Island.

* * *

Agent J. W. Charlton of Gloversville, New York, writes:

"While scouting in some young reproduction near Kecks Center in the town of Johnstown on April 15th, I found the first aecial blisters of the season for this district."

* * *

State Leader T. F. Kouba of Wisconsin writes:

"We found blister rust fruiting this spring for the first time on April 27, in Dunn County."

* * *

Mr. R. P. Fatzinger, State Leader in Pennsylvania, reports that blisters were first noticed breaking through the bark in the Cook State Forest Park in Pennsylvania on April 21st by Assistant Superintendent Radcliff.

* * *

Agent S. H. Boomer of New Hampshire states that aecia was first seen this year on April 17th on the north side of Green Mountain at an elevation of approximately 1,300 feet. In the following table Mr. Boomer gives the dates for the first appearance of aecia in the years 1924 to 1931 inclusive:

1924 - May 2.
1925 - April 30.
1926 - April 26.
1927 - April 20.
1928 - April 21.
1929 - April 9.
1930 - April 26.
1931 - April 17.

WHITE PINE LANDS IN PLYMOUTH COUNTY, MASSACHUSETTS.
TO BE REEXAMINED

Areas to be Checked This Spring as Protection Against the Blister Rust.

In Plymouth County, white pine reaches its optimum development in Massachusetts not as to the size of the individual trees, but as to the percentage of land area on which the species grows. For this reason, it is most important that efforts be made to protect the pines from its enemies so that the trees may reach their maximum development and value. One of the enemies of white pine is the so-called blister rust, a disease that is transmitted through the agency of currant and gooseberry bushes.

First Outbreak of the Blister Rust (in Mass.)

In 1917, a serious outbreak of the blister rust was found in the town of Pembroke on the "Pembroke Arms Inn" property. This disease first made its appearance in Massachusetts in 1909, and this infection in Pembroke was the first evidence of the possible damaging effects of the disease in Plymouth County. It was found that in this particular instance, the infection resulted from the nearby presence of a plantation of European black currants, located in the garden of the "Inn" property. These plants were immediately destroyed, and the surrounding areas were scouted for wild varieties of currants and gooseberries. Much of the damage had already been wrought, however, as studies have since shown that 67% of the white pines on the property had become diseased.

Generally Distributed in the County

Other areas were subsequently located. In Duxbury, for example, one area showed an infection of 70%; in Marion, an area was found with 30% of the trees diseased; three areas in the town of Hingham showed an average of 30%, and one area in Lakeville indicated a 37% infection, and so on. In addition to the discovery of these areas of usual damage, scouting has shown that the disease has reached white pines in every one of the 27 cities and towns in the county.

Control Campaign Started in 1922

In 1922 after a period of intensive experimental work, the results of which showed conclusively that the disease might be controlled at moderate expense, a campaign was inaugurated to eliminate all currant and gooseberry bushes, (wild and cultivated) from the actual white pine sections of every township in the State. The cooperation of property owners was solicited in this work, and today the white pine area in every town in Plymouth County has been examined, and the white pines protected by the elimination of all currant and gooseberry bushes in the immediate vicinity.

More than 200,000 wild currant and gooseberry bushes have been found and uprooted since 1922. More than 2,000 individual property owners assisted in this control work in Plymouth County. In addition to this work in

the actual white pine producing areas, the serious danger from infection from the unusually susceptible European black currants growing in the non-pine sections in each township was eliminated during the summer of 1930. All European black currants in Plymouth County have now been destroyed.

Continued Vigilance Needed

During the progress of this initial control program including the elimination of the menacing black currants, studies have shown that the removal of the alternate host plants (currant and gooseberry bushes) has been completely effective in preventing a rapid spread of the rust.

In spite of the effectiveness of the initial control work, several years have now elapsed, and it is deemed essential to reinspect the areas originally examined in 1923 and 1924. Since the completion of the initial examinations there has been some regrowth from broken stems, some bushes were missed, and seedling plants too small to be noticed in 1922 and 1923, are now of such size as to be a menace to nearby white pines. It is essential, therefore, that these towns be reexamined at this time, and all stray currant and gooseberry bushes destroyed.

During the coming spring and summer, therefore, the towns of Bridgewater, East Bridgewater, Lakeville, Marion, Mattapoisett, Middleboro, Norwell, Pembroke, and Rochester, will be reworked as an additional measure of protection to the foremost forest crop in Plymouth County. As in the original control campaign, the cooperation of local property owners will again be enlisted.

E. M. Brockway, Mass.

(Extract from "The Plymouth County Farmer", for April 1931, Vol. XXI, No. 4.)

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RIBES ERADICATION SEASON OPENS IN PENNSYLVANIA

Up to the present time our eradication work has been delayed by the forest fire situation. However, the work has been started and we have had nine eradication crews working in five forest districts. Several additional crews will start this coming week in other districts in the State.

Phenological Data

I visited the infection area at the Cook State Forest Park on the first of May. Indications are that there will be a heavy crop of aecia this year. Already many of the blisters have burst open and the spores have been liberated. Also visited the infection area at Ensign Run in Potter County. Will have a very heavy production of aecia here this year although the blisters are not so far advanced as at the Cook Forest. On May 2d, very few of the blisters had opened.

May 11, 1931.

R. P. Fatzinger, Pa.

PREVENTABLE WASTE OF TIME

Edit:-While the following analysis of the waste of labor by the Supervisor of Safety and Training for the American Rolling Mill Company was run in the News Letter last year, it was thought of such importance that it was decided to rerun it just at the beginning of the eradication season. We believe the outline is worth the study of all of us.

"Preventable Waste of Time.

1. Idleness of Men on the Job.

When there is idleness, it is due to:

- (a) Poor supervision - foreman is not getting around.
- (b) Lack of asserting authority - good fellow attitude.
- (c) Too many men on the crew.

2. Lack of Proper and Sufficient Training.

- (a) A foreman should train his men how best to do the job.
Show them how.

- (b) Check his men to see that they are following instructions on best methods.

3. Poor Planning by Supervision.

Some men are "doers" rather than planners. This results in the foremen frequently doing the job himself.

He should:

- (a) Study the job to see how it can best be done.
- (b) Place men to the best advantage; some men are more proficient in certain work than others.
- (c) Plan schedule of work to keep all men busy.
- (d) Arrange machinery for maximum production.

4. Holding Men for Emergency.

This usually means keeping men on the job with no definite work for them. The employment reserve is set up to take care of extra needs. Use this service.

5. Lack of Full and Proper Instructions.

A foreman should:

- (a) Tell his men just what is to be done.
- (b) Tell them why it is being done a certain way.

6. Tardiness - Quitting Early.

A foreman has a right to ask his men to work full time.

When these practices are prevalent, it is due to:

- (a) Improper supervision - lack of authority.
- (b) Good-fellow attitude on the part of foreman."

The above quotation from an article by H. T. Gisborne of the Northern Rocky Mountain Experiment Station, which deals with "Foreman Training", was given in the "Smoke Screen" by our fellow forester Mr. A. G. Hamel, U. S. Regional Forest Inspector.

EARLY LEAFING OF RIBES

One of the common statements that we have come to associate with blister-rust educational work is the information that we give so often, either orally or in print, to the effect that "the early spring is the best time of year to look for wild Ribes because they are practically the first plants to send forth new leaves". I have never been more impressed with the truth of that statement than I was recently (April 10) when I had occasion to visit the Arnold Arboretum - "America's Greatest Garden" - the famous tree and shrub laboratory of Harvard University at Jamaica Plain (Boston) Massachusetts. There in an area devoted entirely to a collection of shrubs representing 114 genera, the Ribes stood out most conspicuously as the first plants to put out their new foliage. One bush in particular, a specimen of Ribes cereum, stood out most prominently with its mass of vivid green leaves, the buds completely opened to disclose the young leaves in complete form but, of course, miniature size. A close competitor for its conspicuous foliage was a specimen of Ribes orientale. A few others, namely, R. fasciculatum, R. alpinum, R. missouriense, and R. stenocarpum, had developed to practically the same degree. None of the local common varieties met with in Massachusetts had advanced as completely, although R. cynosbati and R. nigrum had opened to a slight degree.

The important point is that no other shrubs in the entire collection of 1,127 plants approached these few Ribes specimens in point of advancing foliage. The only close competitors were a few honeysuckles (Lonicera sp.) and barberries (Berberis sp.) and one specimen of Prinsepia sinensis.

In connection with this reference to the Arnold Arboretum it may be of passing interest to note here that in the Ribes collection referred to, there are 62 plants representing 49 distinct species or varieties, including hybrids.

One week following the first inspection of the Ribes in the collection considerable development had taken place and most of the specimens had advanced to a stage approximating that of R. cereum and R. orientale noted at the first inspection. Although the foliage of a number of other shrubs had advanced considerably, the Ribes continued to be conspicuously outstanding.

This item can well close as it began. The more we can do to acquaint pine owners with the information that Ribes leaf out early and urge them to take advantage of that fact, the more effective will be our efforts toward adequate and permanent control of the rust.

For the information of the botanically-minded readers of the NEWS, there follows a list of the Ribes in the collection at the Arboretum.

*List of Ribes Specimens in the
SHRUB COLLECTION
at the
ARNOLD ARBORETUM - HARVARD UNIVERSITY
Jamaica Plain (Boston), Massachusetts.

Ribes alpinum	Europe to Japan
R. americanum	Eastern North America
R. aureum	Western North America
R. aureum aurantiacum	(Garden origin)
R. aureum chrysococcum	Nebraska
R. aureum praecox	(Garden origin)
R. carrierei	(Hybrid origin)
R. cereum	Western North America
R. culverwellii	
(nigrum x grossularia)	(Hybrid origin)
R. curvatum	Southeastern United States
R. cynosbati	Eastern North America
R. cynosbati inerme	Mountains of Eastern United States
R. diacantha	Siberia
R. divaricatum	British Columbia to California
R. fasciculatum	Japan
R. fasciculatum chinese	Northeastern Asia
R. fragrans	Northeastern Asia
R. futurum	
(sativum x Warscewiczii)	(Hybrid origin)
R. Giraldii	Northern China
R. glandulosum	Canada and Northern United States
R. Gordonianum	
(sanguineum x odoratum)	(Hybrid origin)
R. grossularia uva crisper	Europe
R. hirtellum	Northeastern North America
R. holosericeum	(Hybrid origin)
R. horridum	Northeastern Asia
R. lacustre	Northern United States and Canada
R. leptanthum	
R. luridum	Western China
R. missouriense	Minnesota to Arkansas
R. multiflorum	Eastern Europe
R. nigrum	Europe to Asia
R. nigrum apiifolium	(Garden origin)
R. nigrum crispum	
R. nigrum sanguineum	(Hybrid origin)
R. nigrum xanthocarpum	(Garden origin)
R. odoratum	Dakota to Texas
R. orientale	Southwestern Europe, Western Asia
R. orientale heterotrichum	Siberia
R. petraeum altissimum	Siberia
R. petraeum Biebersteinii	Western Europe
R. pinetorum	Western North America
R. robustum	(Natural hybrid)

* Names, distribution, etc. taken from plant labels on the specimens.

R. sativum	Western Europe
R. stenocarpum	Northwestern China
R. succirubrum	(Hybrid origin)
R. tricuspe	Korea, Manchuria, Japan
R. triste albinervium	Eastern North America
R. urceolatum	(Hybrid origin)
R. vilmorinii	Western China

C. C. Perry, Mass.

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TREES INDISPENSABLE TO OUR NATIONAL WELL-BEING

An editorial in the Wall Street Journal for April 23 says: "When President Hoover, one day this week, planted a tree on the White House grounds he gave an example to be followed, for trees are indispensable to our national well being. Their planting is not to be confined to lawns and roadsides, but extended to the creation of forests, and also to their care and preservation. Forest products are indispensable to our lives of today. Lumber in its manifold purposes, fuel, railroad ties, mining timber and paper, is among the requisites of modern life. But the timber supply is being used up four times faster than the growth. If one takes a few minutes to consider how much in daily life he is served by lumber and then considers the unbalanced situation between production and consumption he must see that here is a great problem for the people of today. This problem can be met only by planting more trees in the proper places. We are hearing a great deal now about power, and may hear still more a little later. Water power is a natural resource of great importance, and if we are to preserve it we must remember that the regulation of the flow of streams is largely through the forests. Recreation also is becoming of greater importance, or at least is given wider recognition than in earlier times. Forests form a great part of the recreation spaces. So, timber, water power and play depend upon the forests"

(From the "Daily Digest" of U.S.D.A. for April 24, 1931.)

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EXCELLENT FEATURE STORY ON BLISTER RUST APPEARS IN MICHIGAN NEWSPAPER

An excellent feature story by James Clyde Gilbert entitled "Blister Rust Threatens Michigan's White Pine" appears in the Detroit Free Press for Sunday, May 3. The article is well illustrated, partly in color, and is exceptionally accurate and well written. The entire article makes a very effective presentation of the subject.

FORT PLAIN, NEW YORK, PEST-CONTROL MINDED

During the past winter the Fort Plain Water Board has acquired title to a large tract of abandoned and semi-abandoned farm land. This land was originally about two-thirds cleared.

As in most such cases where "marginal" land was settled, the good timber was pretty well cleared out and the poor stuff left, including not a few old, crooked, weeviled white pine, particularly around the edges of the woods. The soil is a natural white pine sandy loam, light enough to somewhat limit other competitors and rich enough to insure good growth of the pine. With these general conditions all that the pine needed was a slowing up of such farming as was done.

A few farms were abandoned entirely, but most of the area was abandoned a field at a time, the owner curtailing his agricultural activities a little more each year. With the abandonment of each of these fields, the pine seeded in until a large portion of the area has been and is being reclaimed by pine reproduction.

The Water Board and Municipal Board had a meeting recently to discuss their forestry program. At this meeting it was decided that inasmuch as they had been to heavy expense in the purchase of this land and consequently were limited as to available funds this year, they would limit their planting program to 10,000 trees, planting only those spots where they wished to get the jump on inferior natural successions, but that they would devote their greatest effort to the protection of all this young natural white-pine reproduction. To this end they agreed to spend up to four hundred dollars on blister-rust crew labor, and more another year should more be necessary. Plans were also discussed with reference to weevil control.

April 18, 1931.

J. W. Charlton, N. Y.

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LOOK FOR THE DUTCH ELM DISEASE

Will the blister-rust control agents please watch for wilting elms this summer. If any are found, cut off freshly wilted twigs eight or ten inches long, wrap them in paper and mail them to the Dutch Elm Disease Laboratory, care of the Ohio Agricultural Experiment Station, Wooster, Ohio. There the causal organism will be grown in culture and determined. Make a record of the exact location of the tree from which the specimen comes. Also watch for brown spots in the sapwood and in elm lumber and send them in also. United States Department of Agriculture Circular No. 147 by Curtis May and G. F. Gravatt gives the details concerning this disease. It will be furnished to any one desiring it. Only four trees have as yet been found in this country but this disease is widespread in Europe.

R. Kent Beattie
Div. of Forest Pathology, B. P. I.

21,000 ACRES OF TREES PLANTED IN NATIONAL
FORESTS LAST YEAR.

More than 21,000 acres were planted to trees in the National Forests in the calendar year 1930, according to a compilation of field reports just completed at the Washington headquarters of the Forest Service, U. S. Department of Agriculture.

National Forest acreage planted has been increased gradually from low point of 5,500 acres in 1921, as the result of small increases in funds made available by Congress, and of improvements in planting technique. Forest officers believe that 25,000 acres is not too much to expect for 1931. ****.

The increase in planting has been greatest east of the Great Plains and near the centers of future wood consumption, says E. E. Carter, assistant forester in charge of the Service's timber management and planting. Last year 10,800 acres were planted in National forests of the Lake States region and another 5,000 acres of former plantations were gone over to fill in stands spotted by the drought. In the Eastern region 1,208 acres were planted, chiefly in the Allegheny National Forest in Pennsylvania and the Monongahela in West Virginia. ****.

Seventy-five acres in the National Forests of California were planted in 1930 to yellow pine, Jeffrey pine, and sugar pine, and the plans call for extending planting to about 900 acres by 1933.

In Montana and Idaho, western white pine, western yellow pine and Engelmann spruce predominated in the plantations which aggregated 4,960 acres. ****. The heaviest plantings in the Lake States were of Norway pine, with some white pine and Canada spruce.

U.S.D.A. Press Release, April 19, 1931.

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BLISTER RUST ARTICLE IN THE "EMPIRE FORESTER"

Mr. Horace G. Harris of Bolton, New York, a Senior at the New York State College of Forestry at Syracuse and a blister-rust control worker for several seasons in New York and New England, has an article entitled "The Editor's Summer" in the Empire Forester, an annual publication by the students of the College. The summer described by Harris was spent on the Mt. Desert Island eradication project, as well as on nursery sanitation work in Maine and cultivated black-currant eradication in Connecticut. The article is well written and interesting, and is illustrated with a photograph showing blister-rust damage to merchantable white pine in Waterford, Vermont.

A. E. Fivaz.

WHITE PINE IN THE SOUTHERN APPALACHIAN
(With Notes on Ribes Distribution)

(Continued from April Issue)

North Carolina

There is still standing in North Carolina more virgin white pine than in all the other Southern States combined. Because of adequate fire protection, particularly in the section around Asheville, white pine is also coming back - reclaiming abandoned fields and holding its own in reproduction wherever the understory is not rhododendron. The Grandin tract of virgin timber located in Wilkes, Watauga, and Caldwell Counties, containing about 50,000 acres, will average 40% white pine. It is estimated to contain 125 million feet of virgin white pine. All through the section of western Watauga and Avery Counties west of the Blue Ridge there is evidence of white pine coming back to be a valuable part in future timber stands. On the slope of Rowan Mt. not far from the Tennessee-North Carolina line is the second large stand of virgin white pine. Here on a 5,000 acre tract there is a stand of 5 million feet of pine.

The growth rate of white pine in southwestern Tennessee is exceptional. While published figures give a maximum growth of 195 cubic feet per acre per year for a 26-year old stand in the Biltmore Plantations, as contrasted to an annual growth of 120 cubic feet at 25 years for second growth pine in New Hampshire according to Frothingham, even this rate has been exceeded. In a 22-year-old plantation in Highland, Franklin County, on top of the Blue Ridge and at an elevation of 3,600 feet, the writer (Cope) took measurements which indicated a growth of 240 cubic feet per year.

The largest tree reported to the writer is still standing in Unicoi County, Tennessee, about 16 miles from Erwin. This tree has a diameter 4 feet from the ground of 7 feet 9 inches, and contains 7-16 inch logs to a 16 inch top. There are 12,000 board feet of lumber in the tree.

In North Carolina, Ribes cynosbati is very infrequent, only one bush was found in an area near Grandfather Mt. at an elevation of 3,500 feet. R. rotundifolium is confined to the higher elevations above timber line. R. glandulosum was found at the summit of Mt. Mitchell.

Georgia

There are practically no white pine stands in Georgia outside of the National Forests. White pine areas in White County are second growth. According to Forest Officers there will be a greater proportion of white pine in the next cut than in the original forest. These areas are below the rhododendron belt, hence white pine reproduction has a chance to establish itself under oak and survive, where the southern pines, because of their greater intolerance, are not able to live under oaks. In abandoned fields here, southern pines will win out over the white pine.

Summary

Thus it appears that where fire protection is given it, the white pine will thrive in many sections in the South. Because of the absence of Ribes in the white pine belt south of the Virginias, there need be little if any fear from the blister rust. In parts of Virginia and western Maryland some protection will be necessary from the blister rust, and the Ribes even though somewhat infrequent will have to be destroyed when the rust crosses the Maryland-Pennsylvania line.

(The End)

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ALL OLD-TIME FRUITS AND VEGETABLES STILL GROWN

European Black Currants Going out of Cultivation on Account
of White-Pine Blister Rust.

Although many new kinds of fruits and vegetables have been introduced to this country in the last 25 years, all the old kinds are still with us, according to the United States Department of Agriculture.

Dr. William A. Taylor, Chief of the Bureau of Plant Industry, says that new horticultural varieties of fruits and vegetables, because of their better shipping and dessert qualities and other desirable characteristics, have been replacing and probably will continue to replace some of the older varieties. But he knows of no important fruit or vegetable formerly grown on a commercial scale that is not now available somewhere in the United States. Of course, many of these products have always been grown and consumed locally and accordingly have never moved to market by the carload.

In a very few instances, such as that of the European black currant and some other currants and gooseberries which it has been found necessary to eradicate from our white-pine territory because they spread white-pine blister rust, the production has decreased. But aside from a very few fruits abandoned for some such reason, no kind of fruit or vegetable which has attained at any time any considerable commercial status has become entirely obsolete, Doctor Taylor says.

Obviously, many fruits and vegetables that were formerly obtained in the fresh state only, or were canned by the housewife are now in addition handled by commercial canneries, and in many cases sold to consumers in larger quantities than before. The pumpkin is no longer so conspicuous on the fresh-vegetable market but is now extensively carried on the grocer's shelves in cans.

The acreage of many of these crops has expanded, notwithstanding the availability of tropical and subtropical fruits and vegetables on most markets throughout the winter.

(U.S.D.A. Press Release, March 8, 1931.)

MAMMOTH WHITE PINE

Col. Henry W. Shoemaker, United States Minister to Bulgaria, and a former member of the State Forest Commission, in commenting upon a recent article in the Service Letter by District Forester W. L. Byers regarding two white pine logs each weighing 14,000 pounds and 60 feet in length, which were used in a parade in Philadelphia in 1889, cites the following interesting conversation in 1927 with Mr. F. E. Martz, a retired woodsman who lives near Eastville, Clinton County.

Mr. Martz states that for six months before the huge logs were secured, the branch of the Lumbermen's Exchange at Williamsport had scouts out looking for suitable trees. A white pine was located on Robert Wolf's job near the mouth of Cedar Run, Lycoming County, and it was agreed that it was the finest white pine tree standing in Pennsylvania. Its diameter breast-high was 12 feet and it was 200 feet in height, perfectly straight and sound. It was estimated to contain 6,500 board feet of lumber below the branches. It was cut under the supervision of a committee from the Lumbermen's Exchange and dropped on a special bed so as not to shatter the bark. A log 105 feet long was cut from it estimated to weigh 25,000 pounds, to be sent to Philadelphia for the parade. Fifty men rolled the log to the railroad siding where it was to be loaded on freight cars with empty cars between and shipped to Philadelphia. The Pine Creek railroad, as it was then called, ran close beside the creek by that name, at Cedar Run, and before the splendid log was loaded the Johnstown flood intervened and the log went to the bottom of the creek and could not be salvaged. In view of this disaster, two 60 foot white pine logs were procured from the same job, and when the tracks were laid again after the flood, were successfully transported to Philadelphia by train.

While hunting over the same territory in December, 1926, Mr. Martz stated that he came upon the monstrous stump still in good condition and recalled the old saying of the Pennsylvania woodsman that "A white pine stump will last as long as a man's life."

Col. Shoemaker states that in 1908 he saw a white pine of similar diameter standing close to Gotshall's Run, Clinton County. However, a storm had broken off its top 70 feet from the ground. The cones were fully six inches in length. Thomas G. Simcox, an old timber cruiser, said that it was second only to one other white pine in Clinton County, which was called the Grandfather Pine, and was 360 feet high, and once stood at the mouth of Schwenk's Gap, Sugar Valley, Clinton County.

(Extract from the Service Letter of the Pa. Dept. of Forests and Waters,
March 5, 1931.)

O F F I C E C O M M E N T

TRANSPORTATION - ROUND-TRIP FARES

As a general rule employees are entitled to be reimbursed for transportation expenses on the basis of round-trip fares only. Claims for the difference between the cost of two one-way fares alleged to have been actually expended and the cost of a round-trip ticket should not be paid by disbursing officers but should be forwarded to the General Accounting Office for direct settlement. (A-34445) 10 Comp. Gen. 267.

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PRINTING AND BINDING - MINIATURE PRINTING PRESSES

In the absence of official approval by the Joint Committee on Printing, payment for a miniature printing press for the printing of labels in the field, which were formerly printed at the Government Printing Office, is not authorized. (A-34365) 10 Comp. Gen. 293.

POST OFFICE DEPARTMENT ASKS THAT THE UNNECESSARY
USE OF LARGE ENVELOPES BE DISCONTINUED.

A memorandum has been received from W. W. Stockberger, Director, Office of Personnel and Business Administration, calling our attention to a notice from the Third Assistant Postmaster General F. A. Tilton, concerning the use of unnecessarily large envelopes, and asking us to cooperate with the Post Office Department.

This notice states that envelopes exceeding 4 by 9 inches in size are too large to be accommodated in the separating cases used in post offices and railway cars, and letters inclosed in envelopes exceeding this size must be given special treatment, consuming unwarranted time and labor. Such letters seriously interfere with the rapid distribution of the mails because they can not be worked in the separating cases used in the Postal Service; they can not be tied with the ordinary packages of mail without being folded or cut by the package string, thus causing the matter to reach the addressee in a more or less mutilated condition, and wide envelopes dispatched loose have a tendency to stick in mail pouches when emptied.

It is pointed out that the use of regular-size envelopes is mutually advantageous to the mailers and the Postal Service, because they cost less than large ones, can be handled with greater facility while in the mails, and reach the addressees in better condition and with more promptness and certitude.

Insofar as practicable let us cooperate with the Post Office Department in this matter.

H. P. Avery.

AMENDING P.B.A. CIRCULAR NO. 161, "MOTOR FUELS
TAX EXEMPTION PROCEDURE."

Circular Letter No. 42, January 16, 1931, of the Chief Coordinator, reads as follows:!

Several instances have been brought to the attention of this office where field activities of executive departments and establishments are using Standard Forms Nos. 44 and 1066 (U. S. Government Motor Fuels Tax Exemption Certificate and Receipt) in connection with the purchase of products, notably lubricating oil, upon which no State or local tax is assessed.

It is deemed advisable to point out that in such instances where there is no tax assessment upon the product purchased the use of Standard Forms Nos. 44 and 1066 is clearly unnecessary and unauthorized.

It is, therefore, suggested that heads of departments and establishments issue instructions to their agents so as to confine the use of these forms by their agents to the purpose for which promulgated.

Employees of the Department are requested to take note of the foregoing instructions. It is well to bear in mind that the exemption form is intended primarily as evidence to be presented by the exempting dealer to the State officers in support of his, the dealer's claim for rebate of taxes previously paid by him. If it can not serve this purpose, its use is obviously superfluous and unwarranted.

P.B.A. Circular No. 167.
April 14, 1931

W. W. Stockberger
Director.

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There is a small pine forest in Cornwall, Connecticut, worth \$1,000 an acre. The best pine in the forest measures 67,000 board feet per acre. This shows what Connecticut forest land can produce.

(From Report of Conn. State Park and Forest Comm. for Year ending June 30, 1922.)

THE TERM "DIVISION" INSTEAD OF "OFFICE" TO BE USED IN THE
FUTURE TO DESIGNATE UNITS OF THE BUREAU.

Heads of Offices:

In the interest of simplification, the Office of the Secretary has suggested the standard use of the term "Division" to designate units reporting directly to the Chief of Bureau. It is believed that the use of this term generally will be helpful to people outside of the Department in understanding references to branches of the Bureau, whether appearing in publications or in correspondence. Accordingly, hereafter all branches of the Bureau heretofore referred to as offices or laboratories will be known as Divisions. This terminology to be uniform should be used in connection with letterheads, correspondence generally and in all printed matter where the title of the unit is used.

Very sincerely,

B.P.I. Memo. 576
April 22, 1931.

Wm. A. Taylor,
Chief of Bureau.

Note:- In accordance with the above B.P.I. Memo. 576, hereafter this organization will be known as a division. Therefore, instead of using the word "Office" as has heretofore been the practice, the designation should be "Division". This terminology will be used in all cases in referring to this organization in the future.

S. B. Detwiler.

A M O N G O U R S E L V E S

Dr. J. F. Martin returned to the Office on May 4th from a short field trip in the Northeastern States.

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Mr. R. G. Pierce left Washington the latter part of April for a month's field trip in Virginia and West Virginia where he will cooperate with the Forest Service in scouting for and eradicating Ribes.

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Mrs. Ruth L. Brittlebank received an appointment as Assistant Clerk on May 1, being transferred from the Plant Quarantine and Control Administration.

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Messrs. F. J. Baker and W. J. Cullen, who have been temporarily employed by the Plant Quarantine and Control Administration, returned to their former positions as agents in New Hampshire on May 6.



THE BLISTER RUST NEWS



June, 1931.

Volume XV

Number 6

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
DIVISION of BLISTER RUST CONTROL



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

THE BLISTER RUST NEWS

Issued by the Division of Blister Rust Control
and Cooperating States

Vol. 15, No. 6

June, 1931.

NEW JERSEY MAKES NURSERY SURVEY FOR BLISTER RUST HOST PLANTS

Mr. P. B. Mott, State Leader in New Jersey, states that a questionnaire was recently sent to 611 certified nurserymen and licensed dealers in New Jersey in an attempt to learn something of the quantity and distribution in nurseries of the host plants of blister rust. The following table gives the blister rust host plants in New Jersey nurseries in 1926, 1927, 1928 and 1931:

Year	No. of Certified Nurserymen	No. of Nurseries Handling Host Plants	Per Cent of Nurseries Handling Host Plants	No. of Nurseries Handling Both Host Plants	Red Currants	Black Currants	Gooseberries	Ornamental Ribes	Five-Leaf Pines
1926	310	58*	18.71	22	20,380	**	2,669	150	6,614
1927	405	40	9.88	25	2,498	261	507	1	21,388
1928***	549	10	-	1	20,425	9000	21,325	221	200
1931	611	113##	18.49	22	7,081	119	6,183	386	543,577

* 21 nurserymen not heard from.

** Grouped with red currants.

*** Incomplete survey - larger currant growers only.

Includes 423,000 in state nursery - all others have 120,577

3 nurserymen not heard from.

SUCCESSFUL DEMONSTRATION IN BARRE, MASSACHUSETTS

A new blister-rust demonstration area was properly introduced to the public at Barre, Massachusetts on May 19, with a field meeting. Thirty-five persons attended and were given a very striking demonstration of blister-rust damage. Infected pines of all sizes, from seedlings to nearly mature stock, were supporting a good supply of cankers in full fruit. Scattered over the lot were several dead trees, 2-4 inches in diameter. These pines gave ample warning of what can be expected from the disease if it is allowed to spread unchecked in a young pine stand. More than 300 red tags had been used in marking the cankers and these with the orange coloration of the blisters and the green of the pine needles produced a gala appearance. It is interesting to note that fourteen of those present were pine owners or representatives of organizations owning white pine. In this connection it appeared that only five of those in attendance were residents of Barre, the town in which the demonstration was held, whereas several groups came from points many miles distant, and one group took the trouble to come 35 miles in order to attend. Among those present were a number of previous cooperators indicating on their part, a continuing interest in blister-rust control which we realize is to be an increasingly important factor in the adequate prevention of further damage by the rust over a period of time.

After the blister-rust demonstration, the party was conducted to "Cook's Canyon," a scenic beauty spot, near the center of the town where lunches were eaten and an opportunity was given to those present to informally discuss forestry practices with Mr. Parmenter, Extension Forester for Massachusetts; Mr. Reynolds, Secretary of the Massachusetts Forestry Association; Mr. Fletcher of the U. S. Forest Service; and State Blister-Rust Leader Perry. Mr. George W. Cook who owns the canyon property, conducted the party through his stands of natural white pines, and also over his plantations. One white pine in the natural stand was estimated to contain, 2,500 board feet of lumber.

A great deal of credit is due to Mr. George F. E. Story, County Agricultural Agent, for Worcester County, Massachusetts, who was responsible for the most effective wide publicity given to this meeting.

Wm. Clave, Massachusetts

May 19, 1931.

PREPARATION OF PUBLIC VOUCHERS (FORM 1034)

In the future the words "FOR FIELD USE ONLY" should appear on the face of all 1034 vouchers for field purchases from Federal Funds.

H. P. Avery.

GOVERNOR WINANT OF NEW HAMPSHIRE IMPRESSED BY SERIOUSNESS
OF BLISTER RUST

Governor John G. Winant and the members of his Council, who came here yesterday to hold a public hearing concerning the proposed change in the highway between here and Mascoma, went to a tract of forest land on Moose Mountain following the hearing to see at first hand a vivid example of the destruction of white pine by blister rust.

Accepting the invitation of State Leader L. E. Newman and Blister Rust Agent G. F. Richardson, Jr., the party left here by automobile and proceeded to a point on the Rudsboro road in Etna, where they left the highway and went on foot into the midst of a fifty acre tract of white pine growth where the disease has left an impressive record of destruction.

This fungous disease which in unprotected areas spreads from the white pine to currant and gooseberry bushes and then from these plants back to other white pines, enters the trees through the needles and grows into the bark, appearing on the surface about three years later in the form of orange-yellow blisters. Its spread can be controlled only by destroying the bushes which act as carriers, and this is the work carried on by the blister rust crews.

The area visited yesterday was covered two years ago and all currant and gooseberry bushes eradicated. The disease was checked from spreading to other trees, but those already contaminated are now in many stages of ruin and decay. Some have broken branches, the tops of others have broken off, while still others have toppled over and present a gruesome sight, especially to the owner of a white pine lot whose property may be ruined by lack of preventive measures.

It was evident that the Governor and Council were greatly impressed with the seriousness of blister rust, for Governor Winant said:

"I can now understand why it is so important to protect the pine lots before they become diseased."

Councilor Hoyt, of Sandwich, remarked:

"I have seen blister rust before, but never anything like this."

Councilors Wadleigh and Powers stated, after viewing this area, "that they were glad their town had been far-sighted enough to have completed control work."

Anyone interested in visiting this area should get in touch with Geo. F. Richardson, Jr., Room 17, Bank Block, Lebanon, who will gladly arrange to take them over this lot.

(Extract from the "Granite State Free Press," Lebanon, N. H., May 22, 1931.)

NEW HAMPSHIRE HOLDS SUCCESSFUL DEMONSTRATION AT
MOOSE MOUNTAIN INFECTION AREA.

Etna, (N.H.) June 4 - There will always be a demand for New Hampshire timber, despite the present temporary price slump, John H. Foster, State Forester, told farmers yesterday (June 3) at a meeting staged on the side of Moose Mountain here, in the midst of one of the heaviest blister rust infections ever located in the State.

Visitors from Lyme, Canaan, Enfield, Lebanon, Hanover, Plainfield, and Cornish, joined with local men in a climb up the mountain side, to look over parts of a 50-acre tract, which a survey has shown has a general infection of 83 per cent, with some areas completely infected.

See Heavy Losses

The men were shown mature trees containing 500 infections, and many others containing 200 or more. It was a sorry sight, and brought home the warning that blister rust must be controlled, if white pine is to be a factor in the economic life of the State in the future.

It was in answer to some doubt expressed over the advisability of continuing timber growing in this State, that the State Forester expressed the opinion New Hampshire timber will always be in demand. By the time the present areas of young pine are ready to cut, he declared, it will be in brisk demand.

He explained that the big timber areas of the country are fast being depleted, that new uses for wood are always being found, and that the population and its demand for building continues to increase. There is every indication, he said, that if New England wants any appreciable amount of timber in the future, she will have to grow it, or pay a prohibitive price.

L. E. Newman, State Blister Rust Agent, and George F. Richardson, Jr., of Lebanon, District Agent, arranged and conducted the tour and meeting. The ugliness of the forest, half dead from blister rust, and doomed for complete destruction, seemed to make a deep impression on the men, many of whom came to the meeting skeptical as to the seriousness and danger of the disease.

See Plenty

They saw cankers covering several areas of the tree trunk and any number of side limbs. There were constrictions that had caused the tree tops to break off in the wind and others scheduled to. Clouds of the sickly yellow disease spores were shock from the tree by the guides, to show the men how the wind spreads infection.

Mr. Newman, in a short talk, said the fight against the disease is being carried on in all pine areas in the country, and that in New Hampshire since 1918, 205 towns have raised money for the work, with 91 of them completing the job for the first time, and 25 now working on the reexamination. Over 30,000,000 currant and gooseberry bushes have been killed, he said. About 600 private interests, in the meantime, have handled their own eradication program.

Mr. Richardson, Blister Rust Agent, has charge of the work in 25 towns scattered over sections of Grafton, Merrimack and Sullivan Counties. At present he has three crews and 25 men at work in the area, has four advance scouts out, and will put a fourth crew in the field soon. He made the Moose Mountain discovery in 1928, and has made a close study of its rapid decline since. With Mr. Newman and others, three study areas of three acres each were laid out, and in one over 90 per cent of infection was found.

Roam Over Area

Following the formal session, the visitors roamed over the area and found plenty to interest them. They traced the infection from a small side branch into the main trunk, looked over broken down trees, observed the vigor of the disease as indicated by the size of the cankers and the amount of spores, and otherwise convinced themselves that blister rust is nothing they want around in their towns. * * * * *

(Extract from "The Union," Manchester, N. H., June 5, 1931.)

RICHARDSON EXPLAINS HOW PUBLICITY SECURED GOOD REPRESENTATION AT MOOSE MT. DEMONSTRATION

Newspaper Clippings

The following newspaper notice was placed in the weekly papers at Canaan, Claremont, Enfield, Hanover, Windsor (Vt.), Bradford (Vt.) and White River Jct. (Vt.); also in the "Manchester Union" which is a daily:

"Forestry and Blister Rust Field Meeting, June 3.

"The State Forestry Department announces the holding of a field meeting on the slopes of Moose Mountain, on Wednesday, June 3rd, at 1:30 p.m.

"It is understood that the State Forester, John H. Foster, will be present and will speak on subjects of interest to the owners of farm woodlots. He will also be glad to discuss other

problems in connection with the growing and care of timberlands.

"The location of this meeting will also afford pine owners an excellent opportunity to observe the ravages of the blister rust disease, for one of the largest and most severe outbreaks of the rust in this region will be found along the slopes of the mountain. This particular tract was the one recently visited by the Governor and Council. Persons never having seen infected white pines, or those who doubt that rust is capable of causing real damage and loss to pines of all sizes, should make it a point to attend this meeting.

"Those planning to take in this meeting should go to Etna, and from that point Arrowed signs will direct them to the area. The distance is slightly less than seven miles from Lebanon."

Posters

Clippings from the papers were mounted on a letter size sheet of paper with the following heading:

I M P O R T A N T

See This Area YOURSELF



Clipping
from
Paper

These posters were put up in post offices and stores in the towns nearby.

Arrowed Signs

Arrowed signs were also placed along the roads from Lebanon and Hanover to the area.

Circular Letters

More than 300 circular letters, somewhat similar to the newspaper item, were also sent out.

Mr. Richardson in explaining the success of the meetings states that he believes the fact that the Governor of the State and the Council had seen the area previously, helped to get out a representative audience.

G. F. R. (N. H.)

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PINE OWNER EXPERIMENTS IN CONTROLLING BLISTER RUST

In 1911, '12 and '13, Mr. Wilbur Cowles, who resides in the township of Chester, Warren County, New York, dug up and planted several hundred small white pine trees. In 1924 he discovered that some of the trees were infected with blister rust and immediately started to eradicate the Ribes, using his own labor. In 1925 he cooperated with the State and several acres were cleared of Ribes. This work was continued in 1927.

In 1928 Mr. Cowles discovered one tree that had a bad trunk canker. The tree showed signs of dying, and the needles were showing, as he thought, the effects of the canker. He covered the canker with newspaper and the tree seemed to take a new hold. In 1929 the needles seemed to be more healthy. This prompted him to try the experiment on a larger scale. In the spring of 1930 the paper was removed from the tree covered in 1928 and was left off during 1930. The canker fruited in 1930 and also showed some aecia in 1931. This spring he re-covered the canker with tar paper. On May 28, 1931, I removed the tar paper and aecia were showing in two places.

In 1929 a number of trees with trunk cankers were covered with tar paper by Mr. Cowles. On May 28, 1931, when I removed several of the coverings, I found that some cankers had fruited and others had not.

I do not think that the disease can be controlled by this method. However, there is a possibility that the growth of cankers may be retarded. Mr. Cowles stated that he did not think that a permanent cure for the blister rust was possible but that he did think the life of infected trees could be prolonged by the method he is employing. He, therefore, is going to continue to keep the tar paper on these trees and observe results.

E. G. Woodward, New York.

HODGKINS FINDS MORE PINE INFECTION IN MASSACHUSETTS

The Massachusetts "Pine-infection thermometer" reached a new maximum this winter as a result of field work performed by Agent L. W. Hodgkins in townships where no previous reports had been recorded. The records submitted by Mr. Hodgkins, together with two other towns reported by Agent Brockway, have brought the total number of infected towns in Massachusetts to 328 out of a possible 355.

It matters little what the nature of the pine distribution is; that is, whether it is merely ornamental, in plantations or in natural stands. If the combination of pine with Ribes can be found, it is seldom that Mr. Hodgkins fails to locate blister rust on the pine host. In the work of 1931, many of the towns were strictly of the residential type and examinations were of necessity confined to ornamentals. In such instances, it became necessary to watch more closely for the association with cultivated Ribes, preferably R. nigrum, and then as a rule an infection record was obtained.

Our hopes that possibly the Island of Nantucket, located as it is, some 25 miles from the mainland, might have escaped the disease, were shattered, when the report was received from Mr. Hodgkins on April 27 that he had located infections on a plantation on the Island. Time did not permit of a thorough search for Ribes, but the plantation is apparently situated some distance from cultivated Ribes, and nothing is known definitely regarding the distribution of wild species. It is quite likely that R. nigrum is involved in this particular instance.

There follows a complete list of the new towns added to the pine infection list in Massachusetts since December 31, 1930, together with a record of the oldest and youngest canker noted.

SUMMARY OF PINE INFECTION SCOUTING DATA-1931

(Barnstable, Dukes, Essex, Hampden, Middlesex, and Nantucket Counties, Mass.)

<u>County</u>	<u>Town</u>	<u>Age of oldest canker</u>	<u>Age of youngest canker</u>
Barnstable	*Dennis	1919	1919
	Harwich	1927	1927
	*Mashpee	1919	1919
	Yarmouth	1919	1919
Dukes	West Tisbury	1919	1925
Essex	Salem	1917	1922
	Swampscott	1922	1922
Hampden	Agawam	1926	1928
	Holyoke	1924	1926
	West Springfield	1925	1926
	Arlington	1927	1927

*Located by E. M. Brookway.

County	Town	Age of oldest canker	Age of youngest canker
Middlesex	Lexington	1917	1924
	Medford	1921	1925
	Melrose	1918	1921
	Reading	1917	1927
	Stoneham	1919	1919
	Waltham	1922	1926
Nantucket	Nantucket	1926	1926

It is of interest to note from these records that in many instances the infections date back a number of years indicating that the disease has been in the townships for some time and has remained unnoticed.

Of the 27 towns in which no infection has been found as yet, seven are on Cape Cod (Barnstable County); six are on the Islands of Martha's Vineyard (Dukes County); six are in Middlesex County; one each in Berkshire, Essex, Franklin, and Hampden Counties; and four (Boston, Revere, Chelsea, and Winthrop) are in Suffolk County. It is our confident prediction that if Mr. Hodgkins can spend another winter assignment with us, infection will be found in nearly all of these 27 townships including Boston.

May 27, 1931 C. C. Perry, Mass.

CONNECTICUT USES STANDARDIZED DATA MAP SHEETS

While Mr. Riley has previously presented some of the following data concerning standardized map sheets (in report of the Proc. of the 14th Annual B. R. Conference, 1928, page 72) it was considered advisable to show the revised map form and explain its merits.

Edit.

"The purpose of the forms is to enable us to concentrate the essential field data pertaining to eradication of Ribes on a standard size map with a minimum of effort and expense. The use of a tough transparent paper enables the user to trace the roads, bounds, contours, and other features of existing maps, thus eliminating the tedious and expensive process of reducing a base map by pantographing or cross sectioning. For a base map we use the U. S. Geological Survey sheets enlarged to a scale of four inches to a mile. We find this scale large enough to permit recording of eradication data by symbols and we find that we can get from one to several blocks on a sheet. The enlarged topographic sheets are secured through the Washington Office. Our blocks are arbitrary units bounded by roads, streams, town lines, etc. Sub-blocks embracing ground cover types are bounded on the maps by dotted lines and designated as IIIa or IIIb, etc.

"In the field work, eradication data is kept separately by blocks or sub-blocks and recorded by symbols as shown in the legend. Crew and scout eradication are differentiated on the maps by the use of blue and green tints which are easily put on with crayons, and if put on lightly and rubbed smooth, they can be written on as well as can be done on the plain paper.

"On the revised forms we have provided for the recording of cultivated Ribes elimination data. Where the elimination of cultivated Ribes in a town is carried on as a separate project, maps are made to record this data alone, but where wild and cultivated Ribes eradication is carried on simultaneously, all data is recorded on the one map.

"The system is adaptable to a variety of conditions and can be easily modified to suit various needs. We find several advantages in the system, namely:

1. It is economical and easy of application.
2. It records the essential data in a concentrated form on uniform-sized sheets that can be easily filed and that are readily accessible.
3. The fact that the data is in pictorial form will make its significance more easily appreciated by those who will later on use it.
4. The preparation of such maps should stimulate the field men to give more attention to a careful accumulation of data because the practicability of data in pictorial form is apparent.
5. If the blocks, sub-blocks or jobs are referenced as indicated in the legend, detailed information as to costs, educational efforts, etc., are easily obtained from the Interview and Examination Record (BRE-R). It constitutes a cross index. The maps are filed geographically. The cards are filed alphabetically.

There are also some disadvantages in the system.

1. It is more difficult of application where U. S. G. S. sheets are unavailable.
2. The mapping is apt to be crude at first and with transient help which is an unavoidable evil, there is apt to be considerable lost time in training mappers. But with even a crude map the data is more easily checked up in the office than if the data was in written reports only.

I believe this system of recording data is a good one, at least for our conditions. Our problem is to get it properly applied in practice and we have had pretty fair success so far. The data has been better recorded this past summer than in the one previous and we are looking for still better results this summer.

**BLISTER RUST CONTROL DATA MAP
STATE OF CONNECTICUT**

- 134 -

Town of.....

MAP

Work done by.....Date.....Scale—2 inches=1 mile

LEGEND

- III** Block Number
- YELLOW** Non-White Pine Area
- BLUE** Crew Eradication
- GREEN** Scout Eradication
- 35** Estimated Date For Re-Scouting
- 2** Job Reference Number (Wild Ribes Erad.)
- 2** Job Reference Number (Cult. Ribes Erad.)
- Blue Border—Ribes Not Within 900 Feet of Pine
- Red Border—Ribes Within 900 Feet of Pine
- Fringed Border—Ribes Have Been Eradicated

- 6** Number of Infected Ribes on The Area
- 20** Predominating Species of Ribes
- 20** Total Number of Ribes on The Area

Predominating Wild Species

- c—cynosbati—prickly gooseberry
- h—hirtellum—smooth gooseberry
- g—glandulosum—skunk currant
- d—americanum—wild black currant
- v—vulgare—escaped red currant

ROADSIDE DEMONSTRATION IN ASHBY, MASSACHUSETTS

I was somewhat surprised and yet very much gratified at the impression made by the results of my first experience in erecting one of the Doore-Endersbee roadside panels. This particular panel was placed at the top of a hill on the main highway in Ashby, Massachusetts, with an attractive stand of natural and planted white pine for a background. I am sure that there can be no adverse criticism of the selection of this particular site on the score of the absence of pine.

The first day after getting the show piece in place, I was kept busy most of the time answering questions and showing persons blister-rust damage on the adjoining pine lot. This damage, by the way, resulted from the presence on the area of skunk currants which were uprooted in the spring of 1923. There has been some regrowth of Ribes on this area and, therefore, the land was re-covered this spring.

I am so favorably impressed with this type of educational work that I have requested material for two more set-ups to be used in another location. In my estimation, these panels are the best educational aid that we have ever had.

May 27, 1931.

W. T. Roop, Massachusetts.

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PINES ON ANOTHER SECTION OF BOSTON'S WATER
SUPPLY RESERVATION BEING PROTECTED

Our first cooperative job this season is a 3600 acre project on land surrounding the Metropolitan Water Supply Reservoirs in the towns of Marlboro and Southboro, Massachusetts. This particular section is known as the Sudbury Dam Reservation.

More than half of this reservation is in pine, mostly planted, and is from 1 to 15 years old. Other coniferous stock, notably red and Scotch pine has been used, but white pine is the outstanding species.

The principal wild Ribes with which we seem to be concerned is R. americanum. Specimens of this species are abundant locally and in one area the plants have been cut off annually in the regular brush cutting operations. This has left strong rooted clumps which will entail some difficulty in uprooting.

Local areas of rather severe blister-rust damage have been found on the reservation and can only be attributed to R. americanum. Further study, however, may reveal the former existence of R. nigrum on estates which were abandoned at the time the reservation was established. Such findings may more adequately explain the conditions found.

May 28, 1931.

W. T. Roop. Massachusetts.

SCHOOL FOR FOREMEN

The School for Foremen this year was held near Brant Lake in Warren County and was attended by twenty-one students and many of the agents and their assistants from the neighboring districts. All activities were personally supervised by Mr. McIntyre.

Immediately after dinner at the Red Fin Camp, May the fourth, the students were divided into crews and under the direction of an Agent or assistant were introduced to the more popular members of the Ribes family.

Crew work was continued to a great extent throughout the week, each member of the various crews being given opportunity to handle the crew until all were familiar with that phase of the work.

On Tuesday afternoon we were honored by a visit from Dr. Ladd, Deputy Commissioner, and Mr. Howard, Superintendent of State Lands and Forests, who spoke to us concerning the Hewitt Law and its effect on the planting problems of this State.

Mr. Littlefield gave an interesting talk Wednesday on one of the important parts of the field work, namely the identification of the various Ribes found in New York State. This was followed by a short examination on the recognition of several specimens of gooseberries and currants in which most of us found out how little we really did know about our enemies. However, another chance was given to redeem ourselves later in the week in which better showings were made.

On Friday the crews were taken to an area to be scouted and reported upon. This is a very important part of our work and was a much needed practice. From the reports obtained from this phase of the work it would seem advisable to give students more practice in estimating acreage as most of them seemed to have little idea of what would constitute an acre of forest land.

At some period during the week, all were given an opportunity to interview Mr. Charlton who proved to be a rather "hard boiled" pine owner and we still have our doubts about getting his cooperation on his twenty-acre pine lot. This was good practice and showed how important it is to be thoroughly acquainted with all phases of the work in order to make successful interviews.

The weather was ideal for our purpose during the first part of the week, but on Thursday night Mr. Cleveland and Mr. Hastings found a wishbone and though of course we do not know their wishes, we have our suspicions. It rained the next day.

I am sure that we all feel that the training we received will be a great aid to us in our work and that the Foremen's School for this year was a great success even though Mr. Strait failed to discover any unknown ponds in the Adirondacks this year.

May 19, 1931.

H. J. McCasland, N. Y.

FOREST PLANTING IN LEWIS AND ONEIDA COUNTIES, NEW YORK
(With Particular Reference to White Pine)

Lewis County

County planting first began in 1929 and has been continued through 1930 and 1931. All planting was done under the direct supervision of the Forestry Committee of the Board of Supervisors. The past two years, the Board of Supervisors has appropriated \$3,000 per year for county forests, which amount was matched on a dollar for dollar basis by the State. The following is a record of county plantings to date:

1929 - (Greig) - 100 acres	{ 80,000 white pine 80,000 red "
1930 - (Greig) - 170 acres	{ 220,000 white pine
Montague & Pinkney - 263 acres	{ 387,000 Norway spruce
1931 - Lyonsdale - 208 acres	350,000 white pine
New Bremen - 66 acres	{ 45,000 white pine 45,000 Scotch pine
Montague - 351 acres	{ 240,000 Norway spruce 240,000 white spruce

Total area of County Forest - 1158 acres - 1,687,000 trees, of which 695,000 were white pine. The County Forests listed above which contain white pine have all been protected from blister rust.

Lewis County rather prides itself as having one of the most enthusiastic groups of tree planters in the State as well as a most unique forestry organization known as the Lewis County Forestry Council. Last year the Forestry Council made a complete survey of all wood-using industries in the county. So far as it is known, Lewis is among the few counties where such a study has been made and is the only county where such a survey has been made without the services of a technical forester.

Oneida County

Plantation figures show that Oneida County has planted some 5,652,845 trees between 1909 and 1928, of which 2,406,575 are white pine - planted in 349 separate plantations. Of these plantations 84, including 1,491,570 trees, have been protected from blister rust, leaving 265 of the smaller and more scattered plantations with about a million trees still unprotected.

T. P. Woolschlager, N. Y.

BLISTER RUST THE BEAUTIFUL

The colorings in nature have long been admired and extolled in prose and poetry. It remains for someone to describe the beauty of a blister rust canker during the aecial season. If we could forget for the time being the damage that the disease is doing, we could well admire the "bloom" that is displayed each spring. Lithographers have faithfully reproduced the colorations, but it is necessary to visit an infection area to get the full display of the beauties of nature's paint brush. In this connection I was amused a few days ago when a certain nature-loving individual made the statement that the reproductions on some of our circulars were doubtless exaggerations. Inquiry was made as to whether the individual had ever seen a fruiting blister rust canker, and upon receiving a reply in the negative, arrangements were made to take the gentleman to a nearby infection area. The first infected pine seen, convinced the critic of the accuracy with which the coloring has been reproduced, particularly in some of the early plates, notably the one in the old Bulletin #15 of the Conservation Commission of New York.

"Beautiful" is the only word to adequately describe the aecial display just prior to the time the aeciospores are liberated.

May 27, 1931.

C. C. Perry, Massachusetts.

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STEREOMOTOGRAPH USEFUL IN BLACK-CURRENT ERADICATION PROGRAM

I have found our "Attract-o-scope", fitted with a combination of 25 blister rust word and scenic lantern slides, very effective as a window demonstration in arousing local interest in our black-currant eradication campaign in the towns worked thus far this season. This miniature demonstration acts as a sort of advance agent, so that when our men appear on the scene, owners already know what it is all about, so to speak. In the past, exhibits of a similar nature have been instrumental in securing the removal of black currants weeks in advance of our regular schedule.

May 27, 1931.

W. T. Roop, Massachusetts.

RITTER HAS BLISTER-RUST DEMONSTRATION AREA
AT DULUTH, MINNESOTA.

The Hartley planting of Duluth is to be made a blister-rust damage demonstration area. The aecia were well out in the Hartley planting infection area May 23rd; very few of them had burst. By May 30th, the majority of them had burst. During the intervening week we had 2.31 inches of rain.

Things are going very fine here. We have cooperated with fifteen different owners this spring. I have worked with the students at Cloquet as during last year, and next week we will complete the establishment of a nursery sanitation zone around the National Forest Nursery at Cass Lake.

L. B. Ritter, Minn.

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MAY IN MASSACHUSETTS

Educational and Service Activities:

During the month of May four roadside demonstration panels and two window demonstrations involving the use of the stereomograph were placed. One field demonstration with an attendance of 35 is described on another page of this issue. Six news items were published, and two mimeographed items prepared for restricted distribution.

In securing cooperation, 34 initial interviews and follow-up calls were made for the purpose of securing the eradication of wild and cultivated Ribes; 38 for the removal of cultivated Ribes only, and 43 for general cooperation. Personal instruction in the field was given to 51 individuals.

Control Activities

In connection with the regular control program, cooperation was secured from 49 individual property owners and three State Departments owning forest land. In the combined cooperative work, 18,889 acres of land were examined, and 62,803 wild and 357 cultivated Ribes uprooted. The cooperating agencies involved expended the equivalent of \$839.85 during the month.

Black currant location and eradication work constitutes one of our major activities this season. During May, 5242 properties were inspected, and 77 patches of black currants located. These patches contained 942 plants, and 631 of these were destroyed at the time of the first inspection or were subsequently reported as having been destroyed by the owner.

June 6, 1931.

C. C. Perry, Mass.

PHENOLOGICAL DATA

Maine

Agent J. M. White reports aecia found on pine in Benton, Maine, on April 9. He also reports uredinia found in Ribes hirtellum in Winslow, Maine, on June 3, and on R. hirtellum, R. americanum and R. rubrum in Solon, Maine, on June 4. Leaf buds of R. hirtellum and R. glandulosum were found opening on April 15. Mr. White writes:

"This season it seems that those Ribes which are noted for not becoming infected early or easily, are showing infection. Perhaps it is due to the weather conditions which have been perfect this season - plenty of moisture and warm spells."

New Hampshire

Agent S. H. Boomer of New Hampshire reports finding uredospores on cynosbati at Moultonboro on May 28th of this year. He also reports that in 1925 uredospores were found on May 28th at Tamworth, and on June 5, 1928, at Eaton.

* * *

Massachusetts

State Leader Perry of Massachusetts found the uredinial stage of blister rust on Ribes vulgare in the town of Boxford, Essex County, Massachusetts, on June 3.

* * *

The first uredinial record for the season in Worcester County, Massachusetts, was reported by Agent Clave on June 4th on skunk currants in the town of Barre.

* * *

Agent R. E. Wheeler of Massachusetts reports finding the first evidence of the uredinial stage for the 1931 season, on May 29th on the leaves of R. vulgare, collected in the town of Worthington, Hampshire County.

* * *

Rhode Island

Mr. A. W. Hurford, State Leader in Rhode Island, writes under date of June 2d as follows:

"On May 25th Mr. L. W. Hodgkins and I observed rust on the leaves of R. americanum and R. rubrum. This is the earliest that we have observed urediniospores this year. We noted this in several places around the State, but definitely recall seeing it in Barrington, R. I."

* * *

New York

Dr. R. R. Hirt, writing under date of May 28th, says:

"At Warrensburg, N. Y., May 26th I found uredospores being produced on Ribes nigrum. May 27th I found uredospores on Ribes cynosbati near Syracuse."

Minnesota

State Leader L. B. Ritter reports aecia in the Hartley Infection Area at Duluth on May 23d and the first urediina on Ribes at Duluth on May 30th.

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BLISTER RUST ON MARTHA'S VINEYARD

Mr. L. W. Hodgkins, writing under dates of April 2 and 4, to Mr. Filler, states:

Blister rust was found today (April 2) in West Tisbury, Mass. on the property of F. A. Foster. A 1919 stem canker, 15 yr. tree, and a 1925 were found on native pine about 4 feet high. I think the larger tree is planted stock.

The first clew was a red currant that had been pulled and laid on the wall, then a tree-to tree canvass brought results.

One more tree was found to have blister rust, a 1921 canker on a planted tree on the Foster land. I have made no attempt to examine all the trees on Mr. Foster's place.

Mr. Foster said he would cooperate in any way possible to control the blister rust not only on his own land but on the Island as a whole. He has already planted 30,000 pines on his property on the Island.

The man in charge of the Foster place said "There are 750 acres in the Foster area and nearly all of it has been planted to white pines, except where there is a close stand of hardwood."

New White Pine Disease on Martha's Vineyard

"There is a disease that seems to be doing a good bit of damage to the plantation along the Gay Head Road on the Foster place. This disease has the appearance of Dasyscypha. I examined some of the cankers and found fruiting bodies that looked the same as those I saw last fall on pines in the Northern Peninsula, Michigan; only these did not have as bright an orange color. This may be due to the action of weather on them. There are a good many trees infected; some of them have died and some have dead tops, others have side branches that are dead part way to the trunk, and the needles are brown as from blister rust. The effect of the disease on the branches and trunk of the tree is much like the larch canker, as it works into the wood in much the same manner. The trees are about 15 years old. Although I did not take a count of the infected trees, I would think that nearly 25% of them are infected. I also found what I think is the same thing on large branches of old pines."

L. W. H.

WORKING THE ROCK DRIFTS IN THE SHENANDOAH NATIONAL FOREST

Recently the writer has run across a new type of country to work, in clearing out the Ribes from the vicinity of white pine stands in Virginia. This type is the rock drift which is found in the Shenandoah and Natural Bridge National Forests. These drifts or boulder slides when on a northern or northeastern exposure are one of the Ribes' habitats. The first inkling that Ribes were not confined to the bottom lands of the stream valleys in the white pine zones of the Shenandoah Forest was had in 1928 when a few Ribes bushes were found among some large boulders about 50 feet above water along the North River road, opposite the old North River camp grounds, now the Girl Scout Camp.

During surveys in this Forest in 1929 none of the rock slides were encountered. However, this spring, part of the water sheds of Little River and Briery Branch in the Shenandoah were cleared of Ribes and the bushes were found extending well up the slope, particularly in rocky areas with northern exposure. Here rock drifts were found extending up the slope for from 100 to 500 feet from the valley floor. The rocks were for the large part bare of vegetation, though occasional trees and bushes would be found in their midst. The drifts though bare of other vegetation frequently were the abode of large Ribes rotundifolium often reaching a height of from 6 to 9 feet. Some roots were found up to an inch or more in diameter and often these could not be broken off or pulled out. In order to get the root crowns of the large bushes it was necessary to pry loose large boulders weighing sometimes from 50 to 100 pounds or more, which would either roll down the steep slope or be dislodged sufficiently to enable one to break the roots or cut them with a jack knife.

The danger from these tumbling rocks soon became apparent, when one of the crew barely missed being injured by a boulder crashing down the slope from above. The crew which up to this time had been working more or less in a line extending up and down the slope, then changed its formation and worked the rock drifts as it came to them at right angles to the contour. The difficulty with which the large rotundifolium bushes were pulled out of the rocks was increased by the precarious footing, the crew men sometimes barely saving themselves from a serious fall as the rocks shifted beneath their feet.

Between the rock drifts which were from 100 to 300 feet across, the forest cover was frequently quite heavy, or was replaced by a matted growth of underbrush largely laurel. The Ribes were not entirely absent in this area between the rock drifts, but they were very scarce, particularly where vegetation was heavy. Where the trees had been thinned out on the northern exposures and the underbrush had either been cut or had not come in, grass was establishing itself. Here also Ribes were found in abundance.

The following table shows the relative importance from the Ribes standpoint of the two sites in the watershed, namely, the slopes with northern and northeastern exposures, and the valley floor.

Table Showing Location of Ribes in Little River Watershed
Above Tillman Run Road.

Year	Number bushes pulled from the valley floor	Number bushes pulled from northern and northeastern slopes	Total number of bushes destroyed.
1928*	27	—	27
1929*	29	—	29
1931	1063	2656	3719
Total	1119	2656	3775
Percent of total bushes destroyed	29.6	70.4	100

*Bushes pulled in preliminary surveys

As shown in the above table 70.4 percent of all the bushes pulled in the Little River watershed above the Tillman Run road were found on the northern and northeastern slopes. On these slopes a large number of the bushes were found in the rock slides. Since the valley floor is grazed sometimes fairly heavily it is possible this is an explanation of the smaller per cent of the bushes which are found on this site.

Roy G. Pierce

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NOTICE

Copies of the Blister Rust News sometimes have blank pages. We regret this, but cannot very well help it. However, since we always have a number of extra copies on hand we can supply you with complete copies if you will let us know when you've drawn a blank.

Thanks, Perry, for letting us know of your imperfect copies, though why Massachusetts should be picked on, I am at a loss to understand, especially since Massachusetts has lately been providing the larger part of the news articles.

R. G. Pierce.

RIBES ERADICATION AROUND FOREST SERVICE NURSERY AT PARSONS, W. VA.

The work of suppressing the Ribes population in the Forest Service nursery at Parsons, W. V. and in the control area surrounding it was continued from April 23 to April 30, 1931. This work, which began with a preliminary survey in the fall of 1928, has continued annually since then. As at first conceived, the control area was limited to a zone including the nursery and a strip 1500 feet surrounding it. This has been enlarged to include additional areas which because of their position were regarded as dangerous if they harbored Ribes. The area as enlarged embraces about 534 acres. The number of Ribes found and destroyed is as follows:

1928 -	22	bushes	in the preliminary survey of August 22-27	
1929 -	3189	"	" " " survey of April 11 - 24	
1930 -	404	"	" " " " " April 14 & 15, June 11-13	
1931 -	1352	"	" " " " " April 23-30	

Up to December, 1930, 3615 Ribes had been destroyed in the control area. In 1931, 866 bushes were destroyed in areas formerly worked, while 486 bushes were destroyed in the extension of the control area.

An analysis of the bushes pulled, the height of which were generally estimated, shows a large number to be quite small, that is not over 6 inches in height. In block 7 C & E combined, 30 seedlings of 1931 origin were found at one place and destroyed. They were less than an inch in height. In block 7 G, 25 out of 78 bushes were 6" or under. In block 7H, 45 out of 104 bushes pulled in previously worked areas were 6" or under. In block 13, 30 out of 48 bushes were 6" or under.

It has been found impossible from previous records of blocks to say whether Ribes will or will not be found and in any given year. Seven blocks in which 168 Ribes had been found previously were examined this year but no Ribes were found in them. On the other hand in 7 blocks where no Ribes were previously found, a total of 98 Ribes were destroyed.

The experience of the past 3 years has proven the advisability of carrying on the eradication work early in the spring as soon as the Ribes leaf out. At first it is necessary to confine the eradication work to the lower slopes and the river bottom proper, for vegetation at the top of Turkey Knob opposite the nursery is much slower in starting.

The control area embraces a variety of conditions, including parts of the towns of Parsons and Bretz with their gardens and fence rows, orchards and woodlots, also several farms with their pastures, orchards, cut-over areas and timber lots, a rough mountain side covered with brush and forest and a river valley with a steep and sometimes almost perpendicular bank fairly covered with vines, brush and trees.

Roy G. Pierce

WHITE PINE MAKES EXCELLENT GROWTH IN WISCONSIN
AND IN THE SOUTHERN APPALACHIANS

Notes from Barron County, Wisconsin

I have just received from Barron County a section of white pine, one year's growth of which measures 47 $\frac{3}{4}$ inches. While this is an unusual growth it is, however, an indication of what white pine can do even in a natural stand. The tree from which this section was taken had three branch cankers and one stem canker and was certain to die within a year or two. The tree was therefore cut down and the section taken for display purposes.

May 21, 1931.

T. F. Kouba, Wis.

Notes from North Carolina and Georgia

Perhaps the most remarkable showing of height growth in white pine is to be found in North Carolina and north Georgia. On an abandoned field in the French Broad district of the Pisgah National Forest a 25-year old stand of white pine showed frequent spacings of 4 feet between the nodes and $2\frac{1}{2}$ and 3 feet were the rule rather than the exception. Similar rapid height growth was found in sections of the Cherokee National Forest particularly on Cooper Creek in North Georgia.

Extract from "Report on Survey of White Pine and Related Factors in the Southern Appalachians" by J. A. Cope, 1930.

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ACKNOWLEDGEMENT CARDS APPRECIATED

The acknowledgment cards recently received from the Washington office should be a useful addition to our administrative equipment. There are many times when, due to the pressure of the work, it is impracticable to make acknowledgments by letter. In such instances these cards should perform a real service. I for one feel that the prompt acknowledgement of requests from any of the field force is essential to the proper functioning of any organization.

May 28, 1931.

C. C. Perry, Mass.

MICHIGAN USES TITLE SLIDES IN STEREOPTICAN LECTURES.

Mr. D. J. Stouffer, State Leader in Michigan, has recently sent in a list of the slides they are using in Michigan, together with the title slides. These title slides are here given for the benefit of some of the agents who have not yet thought of using them.

1. Some of the many uses of white pine.
2. A few pines add beauty to the scene.
3. White pine forests in the Eastern States.
4. White pine forests which have received good care.
5. Restocking to white pine may be natural or artificial.
6. An area from which pines have been destructively lumbered.
7. Some logging and mill scenes where white pine is used.
8. Outline map of the United States showing distribution of white pines and areas where blister rust now exists. As of December 15th, 1930.
9. Close-up views of blister rust on pine showing cankers and fruiting bodies.
10. Distant views of white pine trees which show a portion of the trees dead or dying from blister rust.
11. Blister rust affects only the growing portion of the tree. A single canker may be cut from a tree, as in the next picture, but usually many cankers are present and treatment would result in mutilation.
12. Cross section of white pine trunk. Checked growth on one side due to blister rust.
13. All currants and gooseberries are alternate hosts of the blister rust.
14. The entire history of the blister rust. The rust spreads from currants and gooseberries to pines; from pines to currants and gooseberries and from currants and gooseberries to other currants and gooseberries but NOT from pines to pines.
15. Two hosts of blister rust growing close together. White pine and a wild gooseberry. Note the disease on the pine.
16. Infected currant and gooseberry leaves. The yellow patches are fruiting bodies of the blister rust where small seedlike bodies are produced. These are carried by the wind thus spreading the rust.
17. Enlarged drawings of different stages of the blister rust.
18. Federal Quarantine #63 aims to assist in the control of the blister rust by preventing shipment of infected host plants or host plants capable of carrying the rust.
19. Blister rust can be controlled by destroying all alternate host plants within 900 feet of the pines to be protected. In addition all cultivated black currants should be destroyed.

It may be remembered that a list of the Massachusetts title slides was given in one of the former issues of the Blister Rust News.

R.G.P.

"WHITE PINE" NAME BARRED FOR WESTERN YELLOW PINE

Pacific Lumber Group is Told to Discontinue Confusing Use.

(Associated Press) Thirty-nine Western lumber producers, most of them located on the Pacific Coast, were ordered yesterday by the Federal Trade Commission to stop using the phrase "white pine" in advertising or selling yellow pine lumber of the species "Pinus ponderosa".

The commission said ponderosa lumber was given such names as California white pine, New Mexico white pine and Arizona white pine. These terms were applied in the West as far back as 1880, the commission reported, "but as ponderosa lumber gradually spread eastward it came into competition more and more with true white pine in markets long occupied by true white pine."

The commission said the result was to "classify and associate ponderosa in the market with the true white pine with a resultant substantial monetary sales advantage" to ponderosa producers.

(Extract from "The Washington Post", June 15, 1931)

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RIBES HOOK MEETS WITH FAVOR IN MICHIGAN

Mr. R. I. Rhompson, agent in Michigan, in letter of May 26th, comments very favorably on the new Ribes hook. He writes:

It may interest you to know I have had a good chance to try out the Ribes hook. Am working about 160 acres this year, white and Scotch pine plantation at Camp Hayo-went-Ha (State Y.M.C.A. Camp) located on Torch Lake and Central Lake, Michigan. So far my work has been in beech and maple, young growth, some very dense. Ribes (all cynosbati) run on the average about 110 bushes to the acre. First 80 acres were entirely worked; nothing thrown out. In dense cover I noticed lots of Ribes had few stalks but large crowns, partly decayed, showing, no doubt, the Ribes very slowly dying out. Also the pine showed the effects of the dense shade.

I started out with a crew of 5 men and one Ribes hook and several grub hoes. Saw the advantage of the hook, so had the village blacksmith make up one for each man. Noticed the work went much faster and the men were better satisfied. We still carried the grub hoe for the few large bushes found. The hooks did the job well, taking out more roots I think than the grubhoe. The hooks are the property of the camp and will be used next year when the control work is continued.

WESTERN LUMBERMEN FIGHT BLISTER RUST

During the past few years, both western lumbermen and foresters have awakened to the seriousness of the invasion by white pine blister rust of their chief commercial western white pine areas. This pine area is located in northern Idaho and adjacent parts of Montana and Washington that comprise what is known as The Inland Empire. The rust threatens the existence of white pine on enormous areas of Federal, State and private lands in that region. White pine is the chief source of forest income on these lands and, therefore, the need for prompt and effective action in controlling this virulent disease is of primary importance to the economic welfare of the region. The rust was first discovered in the midst of the pine belt during the summer of 1928. Since that time, several infection centers have been found. The most menacing infection center so far discovered in this region is the Long Meadow area, near Elk River, Idaho.

For several years prior to 1929, the Office of Blister Rust Control conducted experiments in methods of eradicating currant and gooseberry (*Ribes*) bushes. During that time, cooperative work consisted chiefly of control reconnaissance, which comprises a systematic survey of the lands of the cooperating organizations to determine the extent of the white pine areas and the presence of *Ribes* on them, to serve as a basis for eliminating the costs of blister rust control.

This cooperative survey resulted in the establishment of a concrete plan for control of blister rust in the Inland Empire on an area of 3,100,000 acres, including the best of the white pine lands. In 1929, the disease was found to be rapidly establishing itself in this region, and steps were taken to initiate practical control work under the program. This control work consists of the systematic eradication of wild currants and gooseberries from the land bearing white pine, and is being done cooperatively by the timber protective associations (which combine both State and private owners) and the Federal government. Over 50 per cent of the western white pine forest acreage is within National Forests and on the public domain.

According to the plan of systematic control work proposed by the Bureau of Plant Industry, this eradication work for the first few years has been confined to the stream bottoms where the most dangerous *Ribes* occur in the greatest numbers, and will be followed later by eradication measures on the remaining area. The concentrated occurrence of *Ribes* in the stream bottoms is favorable to an improved method of eradication by the use of toxic chemicals. This has made it possible to clear the bottom lands of these bushes at a much reduced cost as compared to hand-pulling.

The interest in the protection of white pine from blister rust is indicated by the considerable sums of money spent by the lumbermen in northern Idaho for control work. The Clearwater and Potlatch Timber Associations jointly with the State of Idaho spent about \$20,000 in 1929, and a similar sum in 1930. For the current year, these and other Idaho organizations will spend over \$40,000 on this work.

S. B. Detwiler.

NEW HAMPSHIRE AGRICULTURAL HIGH SCHOOL BOYS BECOME
INTERESTED IN FORESTRY.*

Lewis Moulton of Center Sandwich, New Hampshire, weeds seventy acres of young pine. Lewis is enrolled as a sophomore in the vocational agricultural course at Quimby High School. Realizing the present and future income from this area of waste land definite plans have been made to complete this project during his four years in school. The mature pine was cut from this lot fifteen years ago. Last year this sixteen-year old boy weeded ten acres, taking out twelve cord of wood that sold for \$96. He feels that he was well paid for his labor as well as increasing the value of the pine lot at the same time. In addition he has increased the stand by setting twelve hundred four-year old white pine transplants. These were furnished by the New Hampshire Forestry Nursery at Boscawen. The only charge was that of transportation. This spring fifteen acres will be worked and additional transplants set. The Moulton family lives on a farm three miles from the village. The place is mostly wood and lumber with about fifteen acres of tillage. A small pasture on the farm takes care of a flock of sheep owned by George Moulton, Lewis's brother, also a student in the Quimby School.

At Winchester the boys in the agricultural department recently pruned and thinned one and one-half acres of growing pine for Charles Nelson. In addition to this they have continued the regular work of thinning and cutting out the hard woods in the pine lot owned by the town.

Walpole High School pruned and thinned one acre of growing pine located on the Hooper Estate. 15,000 pine transplants have already been planted on this Estate. Transplants at the rate of 5,000 a year will be set until the area known as the "100 Acre Pasture" is reforested.

Dr. Lloyd H. Cogswell, an alumnus of Simonds Free High School, Warner, New Hampshire, recently gave to the school a pine lot that joins the school property. This lot has been pruned, the hard wood removed and now provides a picnic grove for those staying on the ground during the lunch hour.

Since the average New Hampshire farmer spends very little time improving his farm wood lot more time is being devoted to this enterprise in our agricultural high school departments. In addition to pruning and thinning the pine, and removing the hard woods in growing stands, eighteen to twenty thousand transplants are set each year, either on the boys' home farms or on town land.

* By Earl H. Little. Extract from the "New Hampshire Forests," March 1931.

Edit: If the Agricultural High Schools are not already on the visiting list of our blister-rust agents it would seem advisable that these schools be cultivated by our men. As seen from the above article a number of the New Hampshire boys are working with white pine, cutting, pruning, thinning and planting. Protection of pine from the blister rust might well be added to the boys' activities.

INSECT PEST OF RED PINE (PINUS RESINOSA)

Mr. Roger B. Friend, Instructor in Forest Entomology, Yale School of Forestry, and Assistant Entomologist, Connecticut Agricultural Experiment Station, has an interesting article on "The European Pine Shoot Moth in Red Pine Plantations" in the Journal of Forestry for April 1931.

"The European pine shoot moth, Rhyacionia buoliana Schiff., was first discovered in the United States on Long Island, New York, in 1914, and since then it has been found in many States in the eastern part of the country and also in Canada. This insect has seriously injured some of the red pine plantations in Connecticut during the past ten years, and with the increase in plantations of red pine it may become as serious an enemy of this tree as the weevil is of white pine. At present it appears to be the most serious potential enemy of red pines in New England. *****."

"In Europe, where the insect has long been known in the pine forests, it causes more or less serious injury to young trees every year in some localities. Although the Scotch pine is the principal host, it is found on other species, sometimes heavily infesting them, and occurs throughout the continent and on the British Isles, from Sweden to southern Europe and from Great Britain to central Siberia and Korea. The host plants include Pinus sylvestris, P. laricio, P. pinaster, P. austriaca, P. montana mughus, P. strobus, P. resinosa, P. sabiniana, P. ponderosa, P. taeda, P. contorta, P. banksiana and P. muricata, not all of which are important forest trees and many of which have been imported from America. The Scotch pine appears to be the usual native host. The injury is usually confined to the younger trees under 30 feet in height, and nurseries and young plantations suffer most. Older trees are sometimes infested, however, and from these the insect readily spreads into younger growth."

Extract by R.G.P.

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SCOTLAND DEPARTMENT OF AGRICULTURE APPRECIATES GIFT

C. G. Foister, Assistant Plant Pathologist of the Scotland Department of Agriculture, writes under date of May 20th as follows:

"Mrs. Alcock, Plant Pathologist, wishes me to convey her appreciation of your kindness in forwarding the poster, photographs and publications on the White Pin. Blister Rust which will prove of great use in the demonstration we are giving this next month. Your readiness to help is a great boon to mycologists everywhere."

O F F I C I A L C O M M E N T

INSTRUCTIONS TO EMPLOYEES REGARDING PLANT PATENTS

The Commissioner of Patents or officials designated by him are the proper sources of information regarding procedures to be followed in applying for plant patents or for any other information relating to plant patents.

In accordance with the Executive Order of October 17, 1930, the Commissioner of Patents has requested the assistance of the Department in the consideration of plant patents. In view of the lack of precedent in consideration of applications for plant patents, it is not yet possible to determine the extent to which different employees of the Department may be called upon to render service on the questions referred to the Department and, accordingly, all employees of the Department are advised that applications for plant patents, either of public service or of private character, cannot be considered or initiated by employees of the Department; and, further, with respect to individuals outside the Department, employees are advised that there is to be no response to inquiries as to the novelty of an alleged invention in advance of the filing of an application for a patent, nor to inquiries proposed with a view to ascertaining whether any alleged discoveries or improvements have been patented and, if so, to whom; nor can employees act as expounders of patent law or as counsellors for individuals.

Of the propriety of making an application for a patent, the inventor must judge for himself.

All employees handling applications for patents are required to pledge themselves to strict observance of the following:

Pending applications are preserved in secrecy. No information will be given, without authority, respecting the filing by any particular person of an application for a patent or for the reissue of a patent, the pendency of any particular case before the office, or the subject matter of any particular application.

Memo. No. 614.
March 26, 1931.

ARTHUR M. HYDE
Secretary.

NEW TYPE GROUP HEALTH AND ACCIDENT INSURANCE AVAILABLE
FOR MEMBERS OF DEPARTMENT.

A new type of group health and accident insurance has been approved by the Board of Directors of the Department's Beneficial and Relief Association. This insurance is now available to all employees of the Department and covers you while in the United States, Canada or Europe.

The contract is with the National Casualty Company of Detroit, Michigan, and offers rates lower than those charged under individual policies.

Employees for the purpose of this insurance are divided into two classes:

Class A - non-hazardous occupations

Rate: semi-annual premium of \$3.40 for \$10 weekly indemnity, up to \$17 for \$50 weekly indemnity.

Class B - hazardous occupations

Rate: semi-annual premium of \$4.74 for \$10 weekly indemnity, up to \$23.70 for \$50 weekly indemnity.

For a slight additional cost accidental death and dismemberment insurance from \$1,000 to \$5,000 may be obtained.

A memorandum from the Beneficial and Relief Association of the Department of Agriculture states that while this insurance is sponsored by the Board it differs from the group life insurance plan in that premiums are payable semi-annually or annually direct to the National Casualty Company. This company also will handle all claims direct. In case of dispute, however, the Association will take steps to protect the party insured.

Further information may be obtained by writing direct to the National Casualty Company, 1100 Barr Building, Washington, D. C.

H. P. Avery.

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The Comptroller has ruled that round trip fare should be obtained wherever practicable. This applies whether the fare is paid for in cash or procured by use of Government transportation requests. Failure to explain the necessity for purchasing one-way tickets when round trip tickets could have been used, may result in the disallowance of any excess fare on account of the two one-way fares.

H. P. Avery.

EMPLOYEES OF THE DEPARTMENT ASKED NOT TO INDORSE ANY
PARTICULAR FIRM OR ITS PRODUCTS.

Heads of Divisions:

Occasionally our attention is called to cases where an employee of the Department has indorsed or otherwise praised equipment used by a particular concern or made comments on the quality of products sold by some concern. Frequently comments of this character find their way into newspaper advertising by the manufacturer of the equipment or supplies.

Statements of the character described above are, of course, entirely improper. It is imperative that employees of the Bureau, regardless of the capacity in which they serve, must at all times take an impartial attitude toward equipment and supplies manufactured by commercial concerns. This is particularly true in connection with concerns with which we cooperate and regarding equipment or supplies we may use in our experimental work. The maintenance of cooperative relations depends to a large extent upon our being impartial. Please see that the employees of your Division are instructed that no statements or interviews may be given which might be construed as indorsing any particular firm or its products. Any request of this character should be referred to the Chief of Bureau for consideration.

Very truly yours,

B.P.I. Memo. 587
June 10, 1931.

Wm. A. Taylor,
Chief of Bureau.

Note: Employees are requested to note carefully and comply with Dr. Taylor's memorandum.

S. B. Detwiler.

P U B L I C A T I O N S

Blister Rust

Detwiler, S. B. "Western Lumbermen Fight Blister Rust," in New Hampshire Forests for March, 1931.

Filler, E. C. "Blister-Rust Control is Effective with Public's Cooperation," in U. S. Dept. of Agric. Yearbook for 1931, p. 120-123.

Koch, Elers. "Can the Cost of Blister Rust Control be Justified," in Journal of Forestry for May, 1931, p. 721-723.

Strong, C. C. "Blister-Rust Control is Aided by Power Devices for Spraying Host Plants," in U. S. Dept. of Agric. Yearbook for 1931, p. 118-120.

A M O N G O U R S E L V E S

Mr. H. J. McCasland was appointed as agent in New York on April 15.

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Miss Bernice Turner received an appointment as Junior Clerk Typist in the Washington Office on May 14.

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Messrs. F. H. Rose and A. J. Lambert were recently transferred from the Plant Quarantine and Control Administration to their former positions as agents in Vermont and Maine.

- - -

Mr. W. E. Bradder received an appointment as agent in Vermont on April 15.

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Mr. Roy G. Pierce returned to the Office on June 4th from an extended field trip in the Shenandoah and Natural Bridge National Forests in Virginia.

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WEDDING BELLS

An announcement has been received of the wedding of Mr. A. W. Hurford and Miss Martha Emeline Winsor on June 6th at Greenville, Rhode Island. Mr. Hurford is our State Leader in Rhode Island.

- - -

Mr. Geo. E. Stevens and Miss Mildred E. Fisher were married on May 9th at Lynbrook, Long Island, New York. Mr. Stevens, who is with the New York Conservation Department at Albany, is a collaborator of this Division. Mr. and Mrs. Stevens stopped off at Washington on their honeymoon.

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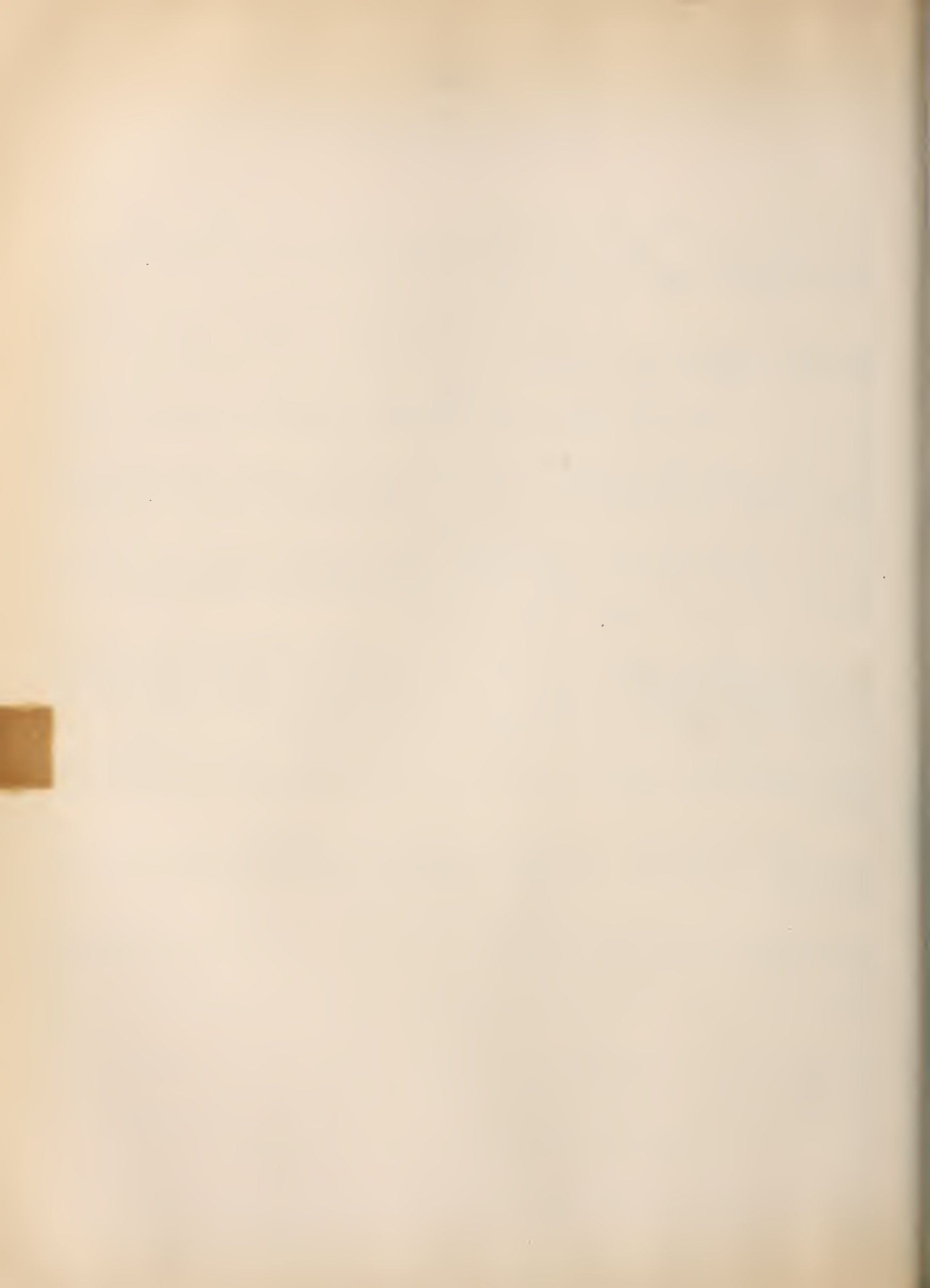
Mr. Edward G. Schmidt and Miss Ruth Massie were married in Washington on May 28th. Mr. Schmidt is one of the Accounting Clerks in the Washington Office.

- - -

Miss Bernice Turner and Mr. Clarence G. Nellessen were married in Washington on June 4th. Mr. and Mrs. Nellessen spent their honeymoon at Atlantic City.

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The employees of the Washington Office join in wishing the "newlyweds" much happiness in their new venture.





THE BLISTER RUST NEWS

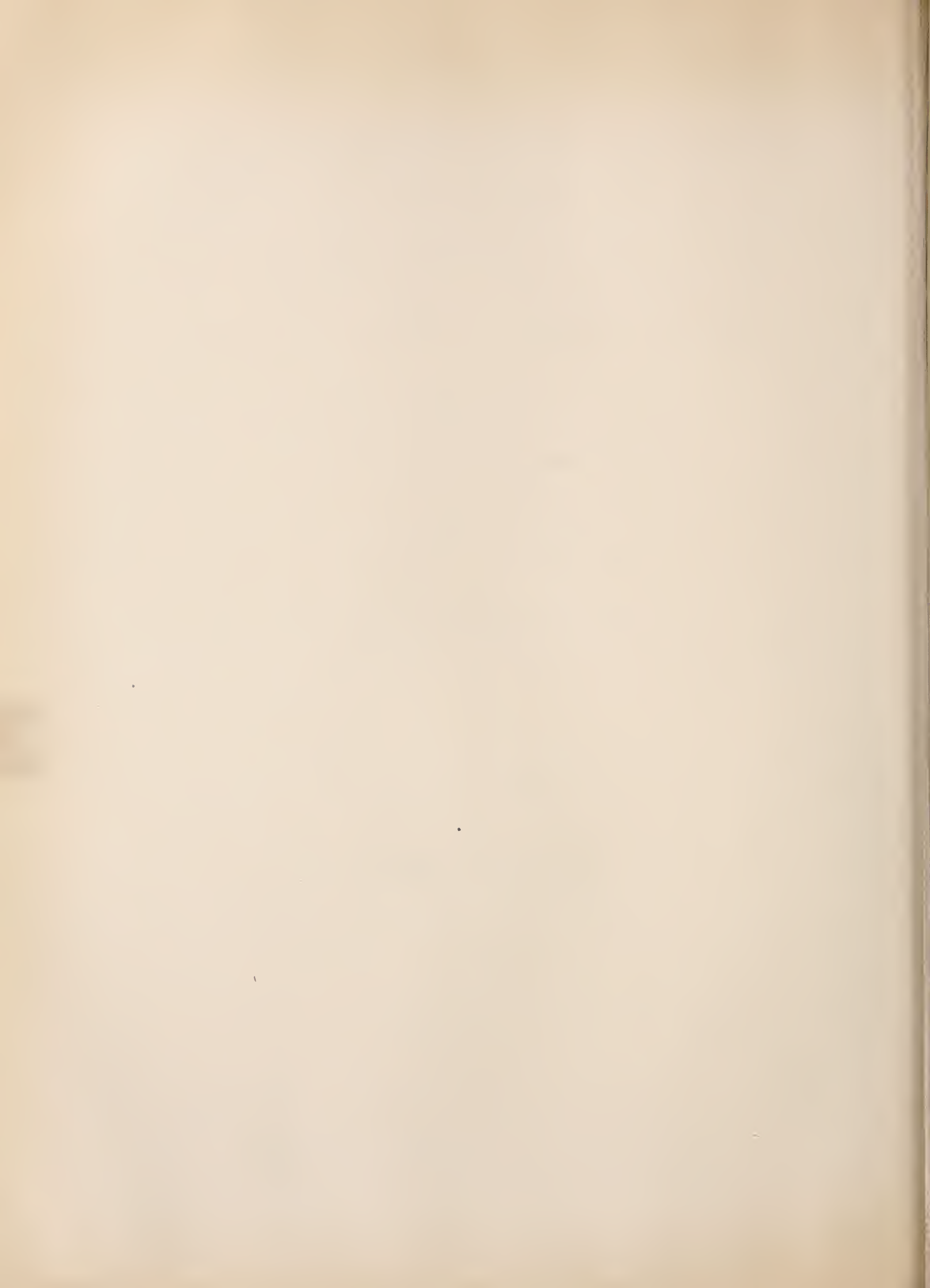


July, 1931.

Volume XV

Number 7

U. S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
DIVISION of BLISTER RUST CONTROL



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Division of Blister Rust Control
and Cooperating States

Vol. 15, No. 7.

July, 1931.

SNAP JUDGMENT IS DANGEROUS

Until this spring we have been of the opinion, based upon casual observations, that our Cape Cod district embracing the towns of Barnstable County, was more or less Ribes-free. This opinion was based largely upon the fact that the soils are extremely sandy and the forest cover chiefly pitch pine. Our belief was proved in error early this spring when in company with State Forest Warden Crowell, we had occasion to examine the State Forest plantation in the town of Sandwich. Infection had been found previously in the plantation but all of the cankers were basal. This led to the belief that the disease was present in the original planting stock. One specimen had been located, however, on which a canker was present at a point three feet from the ground. This canker was obviously of more recent origin and indicated that even if the disease came in on the original stock, a spread had taken place and there must be Ribes in the locality.

This finding led to the decision to make a thorough examination of the area as soon as Ribes were in leaf. The plans were carried out and as a result more than 200 wild Ribes, mostly gooseberries were found and uprooted. These were found around the drainage dikes and along roadsides. In view of these disclosures, Mr. Crowell is to institute a more thorough search around all the State plantations in his district which includes Cape Cod and the Islands of Nantucket and Martha's Vineyard.

We feel that our experience in Sandwich was very much worthwhile, because it has warned us against expressing opinions that are not based upon detailed observations. We can say with even greater assurance, that no pine lot is really safe until a thorough examination for Ribes has been made.

June 30.

E. M. Brockway, Mass.

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BLISTER RUST DEMONSTRATION IN CONNECTICUT

You might be interested in a demonstration that was held yesterday (July 10) in Salisbury. It was not a public demonstration but invitations were sent to about 60 selected citizens and pine owners in four towns in Litchfield County.

We have established quarantines on the towns of North Canaan and Norfolk within which all cultivated Ribes whether infected or not will be removed. (Our laws do not allow us to remove uninfected Ribes without consent of the owners unless within control areas.) We contemplate establishing such quarantines on Canaan and Salisbury this season, providing we obtain the approval of the towns affected. The demonstration was organized for the purpose of working up an interest preliminary to asking for the approval of the proposed quarantines.

About 50 people, including the "key men" of the towns were present in spite of uncertain weather. Mr. Franklin Reed, Secretary of the Society of American Foresters, and Joseph S. Illick, former Forest Commissioner of Pennsylvania, now Professor of Forestry at Syracuse, were also present, as well as the scheduled speakers.

After the demonstration we drove to the blister rust camp where horse-shoe pitching contests were staged and a beefsteak supper served. The demonstration was very successful and a lot of interest aroused that I think will result in the establishment of the desired quarantines this season. The weather was fine for the demonstration but it poured pitchforks by the time we were ready to eat and consequently the supper was served under canvas in several tents. There was no place where all could assemble so the formal talks were dispensed with but the presence of the scheduled speakers and the personal contacts with them served our purpose. I had already given my talk on infection conditions. Everyone apparently had a good time and they were impressed with what they saw in the field.

We intend to hold one or more public demonstrations in Salisbury and Cornwall this summer.

July 11, 1931.

J. E. Riley, Conn.

Edit: The invitation and program put out by Mr. Riley follows:

THE CONNECTICUT
AGRICULTURAL EXPERIMENT STATION
New Haven, Connecticut.

July 3, 1931.

Dear Sir:

The Connecticut Agricultural Experiment Station will hold a blister rust demonstration in the Roraback pines at Twin Lakes, Friday afternoon, July 10th. The program follows:-

- 3:00 P.M. Meet at Clinton Roraback's on Twin Lakes. (Short talk on demonstration.)
- 3:15 P.M. Walk through demonstration area to where all infected trees on a 50 ft. strip along path will be tagged.
- 4:45 P.M. Drive to blister rust camp in Salisbury on Upper Housatonic.
- 5:00 P.M. Inspect camp. Horse shoe pitching contest by Camp teams. Chopping contest.
- 6:00 P.M. Supper at camp.
- 6:30 P.M. Meeting. Chairman, Director Slate, Conn. Agr. Exp. Station.

Talks by Austin F. Hawes, State Forester,
Dr. Geo. B. Clinton, Botanist, Conn. Agr. Exp. Station,
Dr. W. E. Britton, State Entomologist,
Mr. W. O. Filley, Forester, Conn. Agr. Exp. Station.

We hope you will plan to attend this field day meeting to see the demonstration and discuss the blister rust situation.

Sincerely yours,

J. E. Riley, Jr.
State Leader,
In Charge of Blister Rust Control.

THE EUROPEAN PINE SHOOT MOTH IN MASSACHUSETTS

The reference in the June issue of the NEWS to the European Pine Shoot Moth was of interest. While making an inspection of the pines on the grounds of the Kernwood Country Club in Salem, Massachusetts, my attention was directed to a number of red pines on the golf course that had been attacked by this insect. We have been acquainted with the pest in this State for some time, but rather as a nursery pest and usually on Mugho Pine (Pinus montana mughus) rather than other species. While the trees referred to in Salem were strictly ornamentals, they presented striking evidence of what ruin would follow if these insects ever become numerous in their attack on trees that have been planted for forest crop purposes.

July 1, 1931.

C. C. Perry, Mass.

HEAVY INFECTION IN THE MOXIE-GORE PLANTATION IN MAINE

The Moxie-Gore plantation of 8 to 10 acres, which is located about 100 miles north of Augusta, Maine, was planted by the Coburn Land Trust in 1916, the year Mr. Posey found infection in Maine, and one year previous to any control work in the State. A study has recently been made (October 1930) of an acre sample plot in this plantation. No gooseberries and currants have ever been removed from the area. Skunk currants and wild gooseberries may have been abundant at the beginning of the plantation. A few old scraggly Ribes are still present.

Of the 875 trees examined, average height 17 feet, remaining on the plot, 816 or 93.3 per cent are infected with blister rust. 6,135 cankers were found, 1,188 being stem cankers and 4,947 being branch cankers. Many trees were so hard hit that it was practically impossible to count all the infections. No doubt over a hundred or more pines had been killed and rotted away. A table showing the number of cankers by years is given below:

<u>Year</u>	<u>No. of Cankers</u>	<u>Year</u>	<u>No. of Cankers</u>
1916	3	1923	1,434
1917	17	1924	1,033
1918	89	1925	519
1919	288	1926	171
1920	453	1927	58
1921	915	1928	6
1922	1,149		

It will be seen from the above table that the maximum number of infections was reached in 1923, and that they had fallen off to 6 in 1928.

This infection area will make a very impressive sight within a few years. If located in a more settled section of the State it would make an ideal roadside demonstration but owing to its isolated location, very few pine-minded people will ever see it. The aecial stage would make any "non-believer" sit up and take notice.

W. O. Frost, Maine

Edit:- It is possible that the 6 cankers found in 1928 do not represent the total number of infections caused in that year since frequently more than 3 years are required for all of the cankers originating in any one year to become noticeable.

JUNE IN MASSACHUSETTS

June 1931 might well be referred to as a month of rain, as well as a "Month of Roses." According to the Boston Herald, "the month brought more rain than any other month in the last ten years, and an inch more precipitation than any June in the history of the Boston Weather Bureau." More rain fell during the month than in June, July, August, and September of last year combined. The fall was 9.13 inches, more than three times the normal (2.89 inches) amount for the month. And when we say rain, we mean RAIN. These conditions quite naturally curtailed our efforts in the field, but since much of our work relates to black currant location and eradication, the interruption was not as critical as it might have been.

Infection on Ribes has been in evidence everywhere, and unless all signs fail, 1931 will be recorded later as another peak year in the spread of the rust in areas where Ribes still exist. The first evidence of the telial stage in Massachusetts was reported on June 18.

In our regular control work, cooperation was secured from 91 owners and examinations for Ribes were made on 17,810 acres of land. Wild Ribes to the number of 110,150 were uprooted on this acreage. A few (217) cultivated Ribes were destroyed during the month.

The special project involving the location and eradication of black currants progressed satisfactorily and more expeditiously than we have anticipated. During June this work was under way in 23 towns and 19,558 properties were searched. On 248 of these locations, black currants to the number of 1,789 plants were found. Of this total, 580 were removed; the others will be allowed to remain until July 15 to permit the owners to harvest the 1931 crop.

In addition to our regular blister rust control activities, some of the agents have been besieged with requests for miscellaneous pine inspections. The unusual number of inquiries results from the occurrence of many instances of needle-browning which we have been unable to diagnose other than to say that it is the result of wind drying, probably made more acute by the extremely dry conditions of 1929 and 1930. In addition to this wind damage there has been considerable twig chewing and resultant browning, apparently the work of the Pales weevil or some other chewing insect. Tip weevil damage began to make its appearance on or about June 18 when the wilting of the terminal growth was noticed on pines in the plantations on the Sudbury Dam Reservation in Southboro, Worcester County. Similar indications were noted in the plantations of the Westfield Water Works in the town of Granville, Hampden County, about June 25.

July 1.

C. C. Perry, Mass.

BLISTER RUST CONTROL WORK IN PENNSYLVANIA

Ribes eradication work on State lands has been delayed to some extent this spring. Work has been carried on in some of the Forest Districts as follows:

Regular Control Work

<u>District</u>	<u>Acreage</u>	<u>Wild Ribes</u>
1. Michaux	448	10,536
2. Buchanan	517	5,782
3. Tuscarora	2,245	9,530
4. Rothrock	119	4,778
5. Logan	15	261
6. Penn	371	19,815
7. Bald Eagle	82	32,077
8. Mont Alto	735	504
10. Sproul	23 $\frac{1}{2}$	18,665
12. Tiadaghton	208	8,103
13. Elk	485	26,469
15. Susquehannock	303	15,735
16. Tioga	272	16,702
19. Delaware	260	1,952
22. Forbes	80 $\frac{1}{4}$	89,647
24. Kittanning	<u>296</u>	<u>108,240</u>
Total	6,459	368,796

Nursery Sanitation - (Reeradication)

5. Logan	245	2,109
8. Mont Alto	307	504
9. Moshannon	<u>203</u>	<u>7,771</u>
Total	755	10,384

The Ribes found in reworking the protective strip around the nurseries were chiefly seedlings and small bushes missed in previous work.

On June 16th five temporary agents reported at Wellsboro, in the Tioga District, for a training period of approximately two weeks. This training was under the supervision of myself, assisted by Agent Gackenbach, State Agent May, and Forest Ranger Smith of the Tioga District. On June 26th these men left for their various headquarters which are as follows:

<u>Agent</u>	<u>Headquarters</u>	<u>Counties to be Covered</u>
W. Morris Palmer	Montrose, Pa.	Susquehanna
Marco DeBerti	Troy, Pa.	Bradford
C. A. McKinney	Wellsboro, Pa.	Tioga
J. Wayne Chalfant	Williamsport, Pa.	Lycoming
Samuel Kern	Madisonburg, Pa.	Center & Clinton

These temporary agents will cooperate with the private pine owners in the counties listed above.

In addition to these men, the District Foresters and their personnel will spend as much time as possible cooperating with private pine owners.

Agent Gackenback and State Agent May will also spend most of their time during the eradication season cooperating with the private owners in Center and Huntingdon and Bradford Counties.

July 9, 1931.

R. P. Fatzinger, Pa.

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NOTES FROM BERKSHIRE COUNTY, MASSACHUSETTS

Black-Currant Work

Canvassing for Ribes nigrum in the county has continued throughout the month of June, with four men devoting their entire time to the project. The following towns were completed during June: Cheshire, Clarksburg, Florida, Hancock, Lanesboro, New Ashford, Peru, Pittsfield, Savoy, Washington, Williamstown and Windsor. Considerable work has also been done in the town of Adams and in the city of North Adams. It will require but a few more days to complete these two townships and that will complete the canvassing in the entire county. This work in the Berkshire district started on April 20 and will without doubt be finished before July 7.

Checking to Determine Need for Reexamination for Ribes

Special efforts have been made during the month to check areas cleared of wild Ribes previous to 1930. The results of this work show a very urgent need for a comprehensive reexamination program to be started in the immediate future.

July 1.

G. S. Doore, Mass.

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BLISTER RUST AT THE ASHOKAN RESERVOIR, N.Y.

Mr. L. W. R. Jackson, Assistant Pathologist at the Office of Forest Pathology at Philadelphia, in letter of July 7 to the Washington Office, writes that he observed a fairly large amount of blister rust in the plantations on the Ashokan Reservoir in the Catskill Mountains in New York during the first week of June. Mr. Jackson sent in an excellent photograph showing the blister rust on the young pine in the aecial stage. The New York agents have already been apprised of this infection and it is expected that the Reservoir plantations will be protected from the blister rust if this has not already been done.

BLISTER RUST ROADSIDE DEMONSTRATIONS IN NEW YORK

This past Saturday (June 13) we finished retagging and replacing signs on our Blister Rust Roadside Demonstrations at Eldred, in Sullivan County, Pottersville in Warren County, Wells in Hamilton County, and Conklingville in Saratoga County. This year we placed two new demonstrations - one on the main road between Schenectady and Mariaville Lake, about one mile east of Mariaville, and one in Essex County on the main road between Elizabethtown and Keeseville, about four miles north of the Village of Lewis.

These six roadside demonstrations are well placed in very important parts of the State on well traveled roads and in places where they will reach a large number of people.

For the benefit of those readers who are not familiar with our type of roadside demonstration, I will briefly describe one of them. We select an infected area of pine adjoining a traveled highway. The area must border the road where the road is on a good open straight way with good approaches. Such areas are very often hard to get. However, we have often passed up good areas only because they were on a hill or bad curve, at places where accidents might occur if the attention of the motorist were distracted from his driving. Here in New York where there is so much travel one must consider such possibilities and avoid that which would be severely criticised should accidents occur while parking or slowing down to examine the demonstration.

Most of the demonstrations contain 8 signs, while two contain 6 signs. The signs are distributed along the demonstration a safe distance from the road and from 25 to 100 feet apart - more or less - depending on the extent of the demonstration. The approaches to the demonstrations are placed with a sign approximately 27 x 42 inches and reading

"B L I S T E R R U S T

DEMONSTRATION

Just Ahead"

The arrow points the direction to the demonstration. A short distance ahead, another sign reads

"B L I S T E R R U S T

Kills

W H I T E P I N E S

Diseased trees have cards attached."

Further along - another sign reads

"UPROOT CURRANT
and
GOOSEBERRY BUSHES
as they spread
BLISTER RUST
That Kills White Pines"

All of these signs are placed on an angle facing the approach on the road

/ / / / / / / / /

About in the center of the demonstration and facing straight on the road is placed a little larger sign that reads

"BLISTER RUST
Can be Controlled
Communicate with
BLISTER RUST AGENT at
your local Farm Bureau office
or write
CONSERVATION DEPARTMENT,
ALBANY, N. Y."

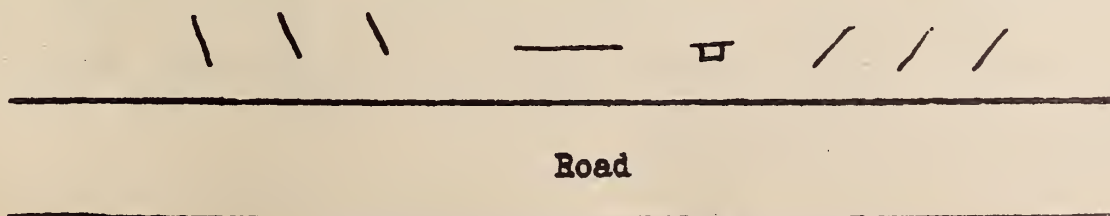
To one side - usually 25 or 40 feet away and facing the road is a sign reading

"Bulletins Here
on
BLISTER RUST
If Interested, Take One."

On the post holding the sign is nailed an attractive box, painted white with a hinged cover in which bulletins are placed.

Three more signs like the first three mentioned are placed on an angle facing the road to be read coming from the opposite direction.

The outline of the demonstration would appear similar to the following:



All diseased trees are tagged with the standard yellow tags reading: "Blister Rust is killing this White Pine." All trees dead from blister rust are tagged with yellow tags reading: "Blister Rust killed this White Pine." Wherever good examples of trunk cankers appear, white tags reading "Blister Rust is Working Here" are strung about the infected part. If the area is one in which no Ribes eradication has ever been carried on and there are a number of gooseberry or currant bushes visible in the area, small wooden signs 8 x 12 inches, reading "Gooseberry Bush Here," are set near the Ribes. From 1 to 15 tags are tied to a tree, depending on its size. The more tags on a tree and appearing on the area, the more attractive the demonstration is to the eye.

The 8 signs are lettered black on white Meritus oil cloth. Usually the words "Blister Rust" are lettered red, the arrow also being red. The oil-cloth stands up well for a season. The tags become dull after a season's wear and should an infected tree die by the following year, this means changing the tags from "is killing" to "killed." Hence we plan to retag all infected and dead trees every year to bring them up to date, and replace with new signs and repaint all sign boards, making it new, clean and attractive. Regardless of what material one was to use, to get the best effect and results one must renew yearly and bring it up to date.

George E. Stevens, N. Y.

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BLISTER RUST CONTROL IN THE UPPER PENINSULA OF MICHIGAN

Among the areas marked for particular attention the coming spring and summer is the Keweenaw or Ottawa national forest unit in the western part of the Upper Peninsula. State Agent George D. Ferrari has just completed a pine survey of some of the area. He has found little or no blister rust and, as a consequence, very few wild currant or gooseberry bushes, and these are well scattered. Nearly 15,000 acres were examined, and of these over 1,000 acres are in white pine 70 to 80 years old. Over 4,000 acres in addition have open patches of pine. Several thousand acres more are in partly cutover white pine stands, and about 1,500 acres are carrying white pine 15 to 25 years old.

"The above figures indicate that the effort to save the Upper Peninsula's white pine is well worth while," said U. S. Agent John Kroeber, who maintains an office in Marquette. ****.

Upper Peninsula organizations who are cooperating effectively with the blister rust control service include the Champion Beach county park, Gwinn county park, Oliver Iron Mining Company, Penn Iron Mining Company, Cleveland Cliffs Iron Company, Pine Grove Golf Club at Iron Mountain, Republic school forest, North Lake school forest in Marquette county, Felch school forest, and the Ishpeming tourist park. ****.

(Extract from the "Development Bureau News," Marquette, Mich., April 1, 1931.)

BEWARE OF TICKS

A blister rust man in Maine once turned green from a bee sting. Mosquitoes have made many of our workers blue. Poison ivy makes them red. And now, many men on blister rust work, both East and West, must guard against turning all colors of the rainbow from wood-tick bites.

These insect parasites of man transmit the dreaded spotted fever. This disease has long been a scourge in the Rocky Mountain region, where as high as 85 per cent mortality from the disease occurs in certain sections. In 1930, the Public Health Service reported about 100 cases in Maryland and Virginia. It was thought previous to 1930 that the disease was confined to the West. Probably many so-called typhus fever cases in the Eastern States have really been spotted fever.

Wood ticks also transmit tularemia (rabbit fever) to humans, so it is well to take precautions to keep free from ticks. The Public Health Service has developed a vaccine which has proved useful in preventing or minimizing spotted fever infection. This preventive treatment is furnished free of charge to blister rust workers who desire it.

July 11, 1931.

S. B. Detwiler.

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BLISTER RUST DISCOVERED IN MARYLAND

On July 16 Mr. Henry Putnam and the writer started by auto on a short tour of inspection of black currant plantings in northern Maryland. We expected that if the blister rust was in the State it would be found on this trip since the weather conditions seemed ideal for its intensification.

On July 16 we found the first infection on R. aureum, on the property of D. Frank at Shady Bower, near Clear Spring, 8 miles west of Hagerstown. There were 3 large bushes infected and it is estimated that about 1/10 of 1% of the leaves were infected. Practically all were uredinia although there were a few telia present.

Traveling west 3 miles, we came to the property of F. Heineman on which we found a black currant bush. (This bush was inspected first by Pierce in September, 1928, no infection being found at that time.) There were also 10 bushes of the cultivated red currant present but these showed no rust. Approximately 10% of the leaves of nigrum were infected, with 95% uredinia and 5% telia.

At Mr. Seibert's place 2 miles north of St. Pauls (which is 2 miles east of Clear Spring, Md.), 1 small bush of R. aureum was found with the blister rust, 1/2 of 1% of the leaves being infected. Flowering currants were examined at approximately 40 places north from Clear Spring, Md., to Mercersburg, Pa., east to Mont Alto and Waynesboro, Pa., and south to Pen Mar and Smithsburg, Md., but no rust was found on them except as noted. The infection on pines at the two centers found last year on the Mont Alto State Forest was cut out and the spread of rust from these centers was very limited. This is evidenced by the fact that several hundred bushes of R. hirtellum were examined in the Mont Alto Forest in the vicinity of the infected pine centers and only two bushes were found lightly infected.

S. B. Detwiler

NEW HAMPSHIRE'S ROADSIDE BLISTER RUST DEMONSTRATION

All of those who attended our annual Blister Rust Conference last fall in Littleton no doubt recall the highway demonstration of white pine blister rust on the so-called "Hill Area." At the time this tract was being "dressed up," several cars from three States, attracted by the many twirling red and yellow tags, as well as numerous signs, halted to inquire what it was all about.

Since the St. Johnsbury Highway, along which this area is situated, carries a heavy traffic (almost equal to many main trunk lines), it occurred to several members of the Division of Blister Rust Control, including the writer, that here lay a possibility for a novel and heretofore untried, semi-permanent blister rust demonstration, which, if properly arranged and supervised, might be productive in giving pine owners from several States reliable information on blister rust control and permit them to actually see the disease and its effect on white pines and Ribes.

The next step was to secure some one who by training and experience would be qualified to handle the demonstration. Through the interest and courtesy of Dean Henry S. Graves, of the Yale Forest School, Frederic C. Simmons was engaged for the months of July and August to take charge of the area.

Blister Rust Agents and State Leaders will be interested in learning as to the details which will be employed in conducting this demonstration. Much the same system of tagging trees and posting the roadside and area that was used last fall has been carried out. In addition, the area will have representative specimens of the local species of wild currant and gooseberry bushes. These plants, primarily to ease the minds of visitors, will be covered by a screen of cheesecloth. A tent, attractively situated among the pines, offers shelter for the man in charge and also enables him to store his educational material.

Each interview will be recorded on a separate card, the name and address of the visitor shown, and just what his or her particular forestry interest is; whether blister rust control, reforestation or woodland management. Every few days Mr. Simmons will forward copies of these cards to the writer, who will in turn send them to the State Leaders concerned.

In case the individual is interested in some phase of forestry beyond the scope and work of the State Leader, that agent will turn over the inquiry to the Forestry Division of his State so that the desired information and contact may be made. Where the inquiry is in regard to blister rust control the plan is to have the State Leader, if he deems it advisable, turn over to the proper District Blister Rust Agent the name and address of the visitor.

At the end of the field season, that is to say, probably shortly after Labor Day, a summary will be made, indicating the number of visitors by States, and the character of forestry practices they were interested in. This summary should indicate whether or not a demonstration of this sort is worthwhile.

I believe we should not be too optimistic as to results of this type of demonstration in blister rust control for two reasons:

First: It must be remembered that 1931 is a season which follows two years of bad business depression, and consequently we cannot expect, even in this "Land of Scenic Splendor," as our friends in the State Publicity Bureau like to style New Hampshire, the usual tide of tourists.

Second: This is an educational experiment and it may take another season to really determine the value of such work. Already, prominent local residents of Littleton have expressed their approval and interest in our demonstration and have given Mr. Simmons and the writer, much valuable assistance and encouragement.

In addition to his duties on the area, Mr. Simmons will probably hold several evening meetings, perhaps at camping grounds in the vicinity. An organization of owners of summer estates, known as "The Garden Club" has already requested a talk by Mr. Simmons.

L. E. Newman, N. H.

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BLISTER RUST IN MERRIMACK COUNTY, NEW HAMPSHIRE

On June 22d I found some escaped red currants heavily diseased with the late summer stage of blister rust. This is, I believe, the earliest date I have ever noticed the telial columns. The excessive amount of wet weather is probably responsible for its early development this year.

The prolific rains this season have increased the difficulties of eradication. The undergrowth seems to have grown in twice as heavy as usual. It has been necessary to increase the caution of both scouts and crew foremen.

In the unprotected towns and those towns which it has taken a long time to cover because of their large area, we are finding quite an increase in the amount of pine infection. The field activities are progressing quite favorably in spite of the handicap of the weather.

T. J. King, N. H.

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NEW HAMPSHIRE PUTS OUT ATTRACTIVE BLISTER RUST CALENDAR

Mr. L. E. Newman, State Leader in New Hampshire, recently sent us an attractive calendar which is being used in his State this year. This calendar is sent out to pine owners in towns where blister rust control work is underway with the suggestion that the pine owners avail themselves of the opportunity to see the eradication work being carried on on the dates shown by the red lines (marked on the calendar).

GOVERNMENT WARS ON BLISTER RUST IN ACADIA NATIONAL PARK, MAINE

A two year campaign in the war on the dread menace, blister rust, attacking the magnificent pines of Acadia National Park, has resulted in the destruction of 314,000 wild currant and gooseberry bushes, 3,910 acres having been covered. An estimated 3,500 acres must be added to the fighting sectors, before the initial eradication is completed. Work is conducted by the National Park Service in cooperation with the Bureau of Plant Industry, U. S. Department of Agriculture, Kirk K. Stimson of Boston supervising. ****.

The work this year, as last, is going forward rapidly under Mr. Stimson, who came down from the Boston office last month, organized his crews and soon put the work into full swing. And that work means the protection of an asset that is really a great one, from the national, the Park and the Island point of view, for it means protection of the scenic attractions of the Park through the saving from destruction of its noble and beautiful pines. ****.

Great scenic stands of pines in Acadia National Park are as valuable as they are irreplaceable and prevention of injury to them means the accomplishment of a worthwhile task. ****

(Extract from "The Bar Harbor Times," June 24, 1931.)

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HEAVY RIBES INFECTION IN CONNECTICUT

From all indications to date, this year promises to be a bad infection year. We have eradicated thousands of R. cynosbati and R. sativum (syn. vulgare) in northern Litchfield County and have found 100 per cent infection on both. What will happen to the pine if the present weather conditions persist into August? It is likely that we will see an early defoliation of Ribes due to the heavy infection which, if it occurs, will shorten our eradication season. Perhaps there will be enough defoliation before telia develop to partly offset the unusually heavy infection on Ribes and thus reduce the chances of pine infection. I'm wondering.

June 26. 1931.

J. E. Riley, Conn.

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NATIONAL ENCAMPMENT SPANISH WAR VETERANS

Employees of the Department who are members of the United Spanish War Veterans and desire to attend the National Encampment at New Orleans, Louisiana, September 6-10, 1931, may be granted leave of absence for this purpose when their services can be spared, the time used to be charged to annual leave or leave without pay if annual leave is exhausted.

P.B.A. Circular No. 174
June 22, 1931.

W. W. Stockberger
Director.

BLISTER RUST CONTROL IN WISCONSIN

Our two crews are working in Brule River and Interstate Parks at present. The white pine portion of Copper Falls State Park (190 acres) is protected. We removed 44,746 bushes on the area. We have established a Ribes sanitation zone around the State Nursery and are making arrangements to protect the U. S. Forest Service Nursery and the Nekoosa-Edwards Pulp Company Nursery. We also expect to cooperate with the Goodman Lumber Company next spring in protecting their nursery, and perhaps use chemicals on a part of the area. We have already cooperated with perhaps a dozen farmers, one Country Club and one City Park of 395 acres. Despite the depression the pine owners interviewed (with one or two exceptions) realize the danger from Ribes which grow near their pine and they have cooperated with us very willingly.

June 20.

T. F. Kouba, Wis.

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BOYS CLUBS SEEKING INFORMATION ON BLISTER RUST

The fact that in the last week two camps have written the Washington office for information on the white pine blister rust, asking for posters and specimens, points to the interest being taken in our work. One of the letters was from the Medomak Camp for Boys at Washington, Maine, and the other was from the Onondaga Council Camps of the Boy Scouts of America, particularly Camp Woodland at Constantia, New York.

I believe that other Boy Scout Camps and private camps having boys would welcome an opportunity to learn more of the blister rust and if this opportunity is not already being taken, it is suggested that the State Leaders consider it on a broad scale, that is, of reaching a large number of the camps in their States each season.

R. G. Pierce.

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GRASS VS. RIBES

Mr. S. N. Wyckoff, in charge of the Western Office, in letter of June 25 to Mr. Patty, writes:

"I have just returned from the Savenac Nursery at Haugan, Montana, where Strong, Johnson and I conferred with L. W. Kephart and J. H. Christ of the Division of Forage Crops and Diseases of the Bureau of Plant Industry. We are there outlining a rather complete set of experiments upon grass establishment as a means of combating Ribes seedlings."

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SUMMARY OF BLISTER-RUST CONTROL WORK IN LEWIS
COUNTY, NEW YORK, 1923-1930 INCLUSIVE.

Mr. T. P. Woolschlager, agent in charge of District 8 in New York, has summarized this work as follows:

There have been 214 cooperators in the work. 31,660 acres have been covered in the last 8 years. Of this, 84%, or 26,675 acres, is initial work, 67%, or 21,199 acres, being areas worked by crews, and 17%, or 5,476 acres, areas worked by scouts. 16%, or 4,985 acres, of the total acreage is reeradication, 13%, or 4,021 acres, being worked by the crew, and 3%, or 964 acres, worked by the scout.

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CORNELL PINE PLANTATION TO SUCCEED DESPITE
EXTENSIVE WEEVILING.

Weevil damage to three trees out of four need not prevent planted northern white pines from forming a final stand of high quality, according to findings presented by A. R. Mann in his 1930 report as director of the Cornell University Agricultural Experiment Station. Conclusions from a special study of weevil damage on sample plots in the Hyphen Plantation, at Ithaca, are stated by Dean Mann as follows:

Although 76 per cent of the white pines were weeviled at some time during the first 12 years in the life of the plantation, there remain a sufficient number of unweeviled trees, and trees in which the weeviling would not affect a 12-foot butt log, to form a final stand of high quality at maturity. It is expected that badly weeviled trees will be removed in successive thinnings when the plantation is between 35 and 55 years old. The department estimates that the net loss resulting from weevil injury, in board-foot volume or in income produced, will not exceed 10 per cent of the value of an unweeviled stand. No significant differences in amount of weevil damage could be found between white pine growing in alternate rows with Norway spruce and white pine growing in alternate rows with red pine.

(Extract from the Forest Worker, May 1931. Sent in by E. C. Filler.)

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NATIONAL CONVENTION OF THE AMERICAN LEGION

Employees of the Department who are Veterans of the World War and desire to attend the National Convention of the American Legion in Detroit, Michigan, September 21st to 24th, 1931, may be granted leave of absence for this purpose when their services can be spared. The time used must be charged to annual leave or leave without pay if annual leave is exhausted.

RIBES ERADICATION IN COOK STATE FOREST PARK, PENNSYLVANIA

**** Cook State Forest Park has peak crowds over week-ends and holidays during the summer months, averaging from six thousand to ten thousand people on special days. A census of cars in 1929 revealed that 130,000 visitors had enjoyed the Park. In 1930 the attendance reached 150,000.

Another urgent task carried on with the clean-up program was the protection of the white pine trees from the inroads of the blister rust disease. Although this disease attacked some obscure pines about ten years ago its presence was not detected until two years before coming under State control when it was found on its companionate host, the wild gooseberry. Control measures meant the removal of all gooseberries and kindred species within a stated radius of the pine areas. Several hundred thousand wild gooseberry bushes have been pulled out in the past two years' work of control. The thinly timbered portions of the Park are such ideal habitats for the genus Ribes that the profusion of this pestiferous plant is barely disturbed. Badly infected pines have been destroyed. Others lightly touched have been pruned. One such specimen tree has already been pruned of over 200 cankers, not counting this Spring's crop of 20 or more. (The author is somewhat pessimistic about blister rust, having seen the chestnut bark disease's start and flourish).

(Extract from article by Chas. E. Zerby, District Forester; in Service Letter of the Pa. Dept. of Forests and Waters, June 11, 1931.)

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A BREAK FOR VERMONT

While on a week-end fishing trip recently in the wilds of Vermont, I had occasion to climb Stratton Mountain in the town of Whitingham. The elevation of the summit of this mountain is 3,800 feet. On the way up, skunk currants were noticed in almost every run or swampy area. When the summit was reached, I was surprised to find that practically the only growth was stunted spruce and skunk currants. The bushes were large and appeared to be thriving. A considerable portion of the area of the summit was covered by this growth. Fortunately, very few white pines were seen within a distance of three or four miles of this mountain.

June 10.

Wm. Clave, Mass.

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NOTICE CONCERNING BLISTER RUST LEAFLET

We have on hand a large supply (approximately 54,000) of the small four-page leaflet "Protect White Pine from Blister Rust." These leaflets are quite useful for distribution at fairs and the State Leaders should have a plentiful supply on hand to take care of the fairs this fall. Those desiring to stock up with this leaflet, please advise us and we will be glad to send you the number desired.

R. G. P.

PHENOLOGICAL DATA

Massachusetts

The first evidence of the telial stage was reported by Agent Brockway on June 18 on the cultivated red currant (R. sativum) in the town of East Bridgewater in Plymouth County.

State Leader Perry and Agent Clave found telial columns present on R. cynosbati in Phillipston and on R. hirtellum and R. americanum in the town of Royalston, Worcester County, on June 22.

C. C. Perry.

Connecticut

B. R. Park reports telia on R. cynosbati June 19. It has been reported several times during the last week in the town of Salisbury where Park also found his telia. I found it fairly prevalent yesterday (June 30) throughout the same town on cynosbati but did not observe it on hirtellum. Hirtellum is not plentiful in that section so no comparison of relative infection on the two species can be drawn.

R. vulgare is very heavily infected in the swamps and W. W. Hubbell, who is scouting in Salisbury, reports some defoliation.

J. E. Riley.

New York

This morning (June 24) I found a couple of small bushes of Ribes rotundifolium which were producing telia in abundance and these were also producing sporidia as shown by microscopic examination. Some of the telia were beyond the prime condition for germination and were probably all of a week old.

Ray R. Hirt.

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SCIENTIFIC NAMES FOR RED CURRANTS

News items have been received in this office from certain of the Eastern States wherein the agents used the names Ribes rubrum and R. vulgare. Dr. Martin has suggested that for the scientific name for the wild red currant we use the name R. triste, and for the cultivated red and white currant, R. sativum. Whenever, therefore, articles with R. rubrum or R. vulgare are received they will be translated as R. triste for the wild red currant, and R. sativum for the cultivated red and white currant. This should eliminate any confusion resulting from the use of different names for these species.

R. G. Pierce.

COPPERHEADS IN THE PINE BELT OF ULSTER COUNTY, NEW YORK

In Ulster County in the Ruby section there are one or two road blocks that are heavily infested with copperheads. Last year when the Gipsy Moth men were working there they killed 28. The report now comes that a man went down to one of the old stone quarries to get some stone and killed 27. As to whether he succeeded in getting the load of stone or not, the writer did not find out. We have been doing some blister rust work in the immediate vicinity. Foreman Beehler reports one copperhead on his list. All the natives here strongly advise against going in this particular area in search of Ribes. One thing sure we cannot expect the whole-hearted cooperation of the pine owner under adverse circumstances such as these. Can anyone suggest the best way out?

Infection General

Infection on Ribes is showing up generally throughout the regions covered by the writer. Very likely weather conditions have been favorable for the development of the rust on Ribes leaves.

Some very heavy pine infections have been discovered on both reproduction and plantations in Greene and Schoharie Counties. One look at the destructiveness of blister rust on these areas will convince anyone of the very serious situation which confronts any pine area not properly protected.

After seeing conditions as described above it seems that every one who is planting white pine or who has charge of the selection of planting sites should use a good deal of caution to avoid planting white pine in areas where Ribes have not been eradicated or where control is impracticable. Blister rust control agents should take the initiative in providing pine planters and owners in their districts with expert advice and assistance in safeguarding their trees from the rust.

The Junior Extension Agent, John Lennox of Delaware County, is offering excellent cooperation with the blister rust organization in the protection of the 4-H Club plantations in that County. Mr. Lennox believes that it is just as important to take care of the young plantations after they have become established as it is to encourage boys and girls to plant trees. Delaware County has plenty of blister rust but it is hoped that all the white pine plantations belonging to the 4-H Club boys and girls will be protected before the summer is over.

The increasing interest in reforestation in New York State carries with it a greater interest in the protection of the forests. It has been mentioned several times to the writer that more people are asking about blister rust, and in some cases, men have come to the Agents and asked for assistance in eradicating Ribes to protect their pine. This is more the way it should be. We don't mind doing some of the chasing and arguing but a constant round of it without apparent results finally gets to be discouraging business. But, Oh Boy, when a man comes to the office and asks for it - well, we feel somewhat like Andy does when he first starts out on one of his grand business ventures.

H. G. Strait, N. Y.

NEW HAMPSHIRE IMPROVES METHOD OF CHECKING BY STATE INSPECTOR

This year the State has been divided and each inspector has been given certain districts to check. This is working out very well in this district since Ed White, the inspector, has been here twice now and has spent a week each time. It is so worked out that while he does not spend as much time with each crew or in each town as in past years, he is able to get into nearly every town and spend some time while the crew is there. He gets around every third week and sees the crews and scouts and does enough checking so that we know exactly how the work is going, and the results while the crew is in the town. So far this year the work has been of a very high grade and there is no question but that it is worth a good deal to have the crews and scouts know, while they are in the town, that the areas are checked by the State checker.

Large Number of Ribes Lower Acreage Worked in District

While there will be more money expended for control work in this district this year than ever before, I do not think the acreage covered will be much greater if as great as in some of the past seasons. The reason for this is the large number of Ribes being found on the areas worked, together with the very hard going and the time lost on account of so much rainy weather.

G. F. Richardson, N. H.

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LETTERS TO SELECTMEN AT START OF WORK IN TOWN

This year I am sending each member of the Board of Selectmen the following letter whenever I start work in their town:

On _____ 1931 I started work in your town on the Control of the White Pine Blister Rust. The areas to be worked are those which were decided upon by Mr. _____ and _____ along with myself a short time ago. The crew foreman is Mr. _____ and the scout is Mr. _____. They are staying at Mrs. _____, _____, N. H., and the telephone number is _____. I trust that you will get in touch with

(or

the foreman (and scout and arrange to go out with them sometime while they are in your town, also that you will assist me by having others in your town see the work in progress and thereby learn the Control methods.

Please let me hear from you if I can give you any further information about Blister Rust or help in this or other forestry matters.

Thanking you for your past help and cooperation, I am,

Very truly yours,

GEO. F. RICHARDSON, N. H.

PREERADICATION SURVEY ON THE CHIPPEWA NATIONAL FOREST, MINNESOTA

There has recently been organized under the direction of Mr. L. B. Ritter, State Leader of Minnesota, a plan for making a preeradication survey of certain areas in the Chippewa National Forest. This work is being done cooperatively by the Minnesota Forest Service, the Division of Blister Rust Control, Bureau of Plant Industry and District 9, Forest Service. Mr. Don Stewart is making the survey.

The object of the preeradication survey is to obtain information on the number and species of Ribes per acre on present pine lands and proposed planting sites as well as a reliable estimate of the cost of blister rust protection on the different forest types, the best control methods to use, etc. This survey will give the information needed as a basis for working out an effective plan for control of blister rust on the Forest.

The method of performing the work in brief is to run strips four times through a section or once through each forty and take Ribes data on two tenth acre plots in each forty. Each plot is one rod wide by sixteen rods long. In addition to the Ribes count on each plot, information is taken as to Ribes type, timber type, brush density, and windfall. The area to be covered in this manner has already been cruised and timber types designated by the Forest Service so it is not necessary to make counts of the timber.

It is hoped that from this survey we will be able to give to the Forest Service in tabular and map form, information relative to the location and acreage of: (1) Land free from Ribes and therefore already protected, (2) Land where Ribes are few and protective work is economically feasible, and (3) Land where Ribes are abundant and costs of protection are prohibitive.

By having these data on a map showing potential planting sites and Ribes conditions it would then be an easy matter to recommend that planting of white pine can be safely done on certain areas as far as blister rust is concerned, and that on other portions of the area where Ribes are abundant some other species such as spruce or red pine would be recommended.

A considerable amount of preeradication work is needed in the Lake States. The probability exists that there are many areas in the Lake States which are excellent white pine planting sites and which are also comparatively free from Ribes. Such areas could be planted to white pine with the assurance that protection against blister rust would involve little or no blister rust protection costs. The results of this work should provide valuable information for the use of agencies engaged in reforestation.

H. N. Putnam.

BARK BEETLE IN OHIO PREFERS RED PINE TO WHITE PINE

Dr. Martin has just called our attention to an attack of the bark beetle, Ips grandicollis Eich., in a plantation in Ohio, which has been reported by J. S. Houser of the Agricultural Experiment Station at Wooster, Ohio, in the Journal of Economic Entomology, June 1931, page 657, in an article entitled "Effect on Shade Trees and Forest Insects."

"The outstanding occurrence this past season in Ohio with respect to the influence of the abnormally dry weather on shade tree and forest insects was an invasion of bark beetles in conifer plantings on the State forests, which are located principally in the southern part of the State. Pinus resinosa has offered great promise and up until this season has proven exceptionally free from damage by insect pests. In mid September, however, the ten year old plantings of this species at Steece, Lawrence County, were found rather heavily infested with Ips grandicollis Eich., some trees having died during late summer. Upon closer examination the infestation was found to be rather wide-spread over an area of several acres. Larvae, pupae and adults were found. By December the damage had become more intense and additional numbers of trees had died. As a result of this infestation it will be necessary to remove a large number of trees from a stand which up until this time has been practically complete. Pinus strobus in adjoining plantings was not observed to be infested. Orthotomicus caelatus Eich. and Hypophloeus sp. were taken from P. resinosa at Steece and Ips calligraphus Germ. at Mineral, Ohio. At Mineral I. grandicollis Eich. was taken on P. resinosa and also upon P. erecta. The determination of the species discussed was made by Dr. M. W. Blackman of the Bureau of Entomology."

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ERROR IN CONFERENCE PROCEEDINGS

Mr. E. W. Littlefield, Acting Supervisor, Forest Investigations, of the New York Conservation Department, has called our attention to an error which appeared in the Report of the Proceedings of the Sixteenth Annual Blister Rust Conference Held in Littleton, New Hampshire, October 15-17, 1930. On page 16 of this Report it is stated that Mr. Littlefield laid out several areas directly preceding eradication in 1924 and 1925 to obtain information as to whether or not the crews were getting enough of the Ribes to effectively control the disease. The error appears in stating that the plots were laid out directly preceding eradication since he states they were laid out directly following eradication. The point drawn out by Mr. Littlefield was that a check made in these plots 5 years later showed that there was about 30% less Ribes than before eradication and 40% less leaf bearing stem; about 88% was new Ribes material (new bushes, or new live stem). Mr. Littlefield's observations show that the crews get most of the larger bushes in the initial eradication work, and that the smaller bushes gradually become more and more decadent. He also expressed the opinion that the Ribes factor on the ground after crew work was of more importance than the percentage of bushes eradicated.

T. C. LUTHER TALKS OVER THE RADIO

At the age of 68 I feel altogether too old to tell the present generation anything about conservation and reforestation, but being a loyal member of the Saratoga County Farm Bureau, I am trying to do my bit in compliance with a request from our Bureau manager, and in order to make these few remarks effective I will have to refer to my own work in the line of reforestation.

For many years previous to 1915, the year I started reforesting barren farm lands, I saw the necessity of protecting our timber supply and practiced what is now termed "selective cutting" taking out only the matured and defective trees, permitting the young growths to get the nourishment that the removed trees were obtaining, and in this way helping them obtain not only this additional nourishment from the soil but giving them more sunlight, which they need just as much as a human being. Right here I want to say that nothing living compares more to a human being than a tree.

Selective cutting when properly carried out brings a quicker financial return than reforestation, for the growth left usually has about one-third of the required age of a tree necessary to make marketable timber.

My first plantation consisted of 107,000 white pine transplants which I had planted on a hundred acres of the poorest sand lands that I owned, and where nothing but sweet fern bushes grew. Now that plantation is a beautiful young forest of trees of some 15 to 20 feet in height, with here and there some of my white pine children ranging in height about 25 feet.

During the World War, on account of the scarcity of labor, I confined my reforesting to planting only 25,000 to 50,000 a year, but in 1923 I commenced in earnest to reforest, and planted an average of one million trees or more a year until the spring of 1929, when my son, who is affiliated with me in this reforesting movement, saw the necessity of building fire lines throughout our preserve. There are approximately 35 miles of roads and trails in this Forest Preserve, and along these trails the brush and undergrowth for a space of about 50 feet has been entirely removed, and the roadbed, 10 feet wide, gone over with a disc harrow drawn by a tractor at least twice a year. This cuts and removes all of the grass and weeds, which practically forms a dead line against fire spreading from the surrounding woods. ****.

When our planting crews are in good running order we have had as many as 80 to 90 men, and average about 50,000 trees a day. We have reached as high as 72,000 but this, of course, was when the fields were clear of grass and undergrowth. ****.

We have also tested out very successfully a variety of Scotch pine, known as the Riga Scotch, seed of which came from the province of Riga, Russia. These are especially adapted to our soil and climate and as a result of this test the New York State Conservation Department is procuring all of their Scotch pine seed from Riga and nearby provinces. So in this case at least our experimental planting has proven a successful test. ****.

Reforestation and conservation in this country are merely in their infancy compared with what my son found in European countries where it has been worked out so successfully in some sections that the cost of the local government is nearly paid by the receipts from the public forests. If we could only reach that point in this country what a relief it would be to us poor tax payers. ****.

To you who are now planting on your farms or estates, I wish you would give a little time to planting your poor fields that will not raise a profitable farm crop, seedlings or transplants, so that when you pass on there will be a living monument to yourself and something better than a savings bank account for your children. for a tree that costs you a penny to plant now, should in 60 years be worth from \$3.00 to \$5.00. In other words it is a case of planting pennies and growing dollars. ****.

(Talk given over Station WGY, June 5, 1931.)

P U B L I C A T I O N S

Blister Rust

Benedict, W. V. and T. H. Harris. "Experimental Ribes Eradication Stanislaus National Forest" in Journal of Forestry for May, 1931, p. 709-720.

Tubeuf (C. v.). Biologische Bekämpfung des Blasenrostes der Weymouthskiefer. (Biological control of the blister rust of Weymouth Pine)-Zeitschr. für Pflanzenkrankh. u. Pflanzenschutz, xl, 4, pp. 177-181, 1930.

"A brief account is given of the writer's successful experiments in the control of blister rust of Pinus strobus and P. sylvestris (Cronartium (ribicola) and C. asclepiadeum) (R.A.M., viii, p. 344) by means of their natural enemy, Tuberculina maxima (cf. ibid., v. p. 314). The mode of dissemination is extremely simple, consisting merely of collecting the lilac-coloured spore dust of the parasite in a paper bag, and transferring it to the aecidia of the rusts with the tip of a penknife. The author's previous appeals for the replacement of the susceptible P. strobus and P. monticola by the immune P. peuce are recapitulated (ibid., vii, p. 482)."

Detwiler, S. B. "White Pine Production and Blister Rust Control" in The Idaho Forester, Vol. 13, 1931, p. 14-15, 48-49.

A M O N G O U R S E L V E S

Mr. G. B. Posey left Washington on July 2 for an extended field trip in the West.

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Dr. J. F. Martin has returned from a business trip to Amherst, Massachusetts.

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Mr. J. M. Palmer, who left this office the middle of January to accept temporary work as Disbursing Agent in the Farmers Seed Loan Office at St. Louis, Missouri, returned to the Division of Blister Rust Control, effective July 1. He reports that the Middle West was very hard hit by the 1930 drought and that he disbursed over \$9,500,000 during his assignment.

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Mr. Eddie Holland, formerly Accounting Clerk in this office, dropped in the latter part of June to see old friends. Mr. Holland reports that he has accepted a position in the Division of Horticultural Crops and Diseases.

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Mr. H. N. Putnam, formerly of the Western Office, arrived in Washington on July 13. After a brief study and inspection of blister rust control work in the Eastern States, he will take up his new duties as field supervisor of cooperative control work in the Lake States.

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Mr. Shirleigh Silverman has recently been appointed temporarily in the Division of Blister Rust Control, with headquarters at Baltimore, Maryland. He will assist Mr. Detwiler in a statistical capacity in connection with a study of blister rust infection centers.

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Miss Beatrice McCormick, who has been on field duty for several weeks at Ithaca, New York, returned to the office the first of the month.

O F F I C E C O M M E N T

COMPENSATION - PART-TIME AND FEE-BASIS EMPLOYEES

Part-time and fee-basis employees are not entitled to the compensation attached to their positions during the time they are appearing as witnesses and being paid a fee therefor, under the provisions of section 19 of the World War veterans' act, as amended by the act of July 3, 1930, 46 Stat. 992.

A part-time employee should be charged the proportionate share of his salary on the basis of his absence from his duty station.

A part-time employee appointed to render a specified number of hours of service per day can only fulfill his agreement by rendering the specified number of hours of service on each day of service. (A-35191) 10 Comp. Gen. 361.

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TRAVELING EXPENSES - FIRST DUTY STATION

Where a newly appointed employee was specifically advised, prior to appointment, that his headquarters would be at Los Angeles, Calif., the appointment being silent as to the post of duty, and he received notice of his appointment at Washington, D. C., but performed no duty there, being ordered immediately to proceed to Los Angeles and to perform a certain duty en route, with no direction to return to Washington, such employee must bear the expense of placing himself at Los Angeles, his first regular duty station, and a subsequent order purporting to change his duty station from Washington to Los Angeles as of a later date is ineffective to authorize reimbursement of traveling expenses from Washington to Los Angeles. Such employee may be reimbursed for any additional subsistence and travel expenses incurred by reason of temporary duty performed en route to his first duty station to the extent that the expenses incurred are in excess of the expenses which would have been incurred by him in going from the place where he received the appointment to the place fixed as his first regular post of duty. (A-33731) 10 Comp. Gen. 415.

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SUBSISTENCE - HEADQUARTERS

The authority to designate the post of duty of an employee includes only the authority to fix the place at which the employee actually establishes official headquarters. The designation of any other place for the purpose of giving him a subsistence allowance or a per diem in lieu thereof does not entitle him thereto when absent from his actual official headquarters. (A-36090) 10 Comp. Gen. 469.

ADVERTISING - BIDS - EVALUATION - COST OF DELIVERY

The cost of delivery of equipment, etc., is always a matter for consideration by the Government in determining which is the lowest bid received. While specifications need not state specifically, where equipment, etc., is to be purchased f.o.b. point of shipment, that the cost to the Government of transporting to point equipment is to be shipped will be considered in making the award, they should, where possible, indicate such point in order that all bidders may be advised and have an opportunity of fixing their prices and point of shipment in the light thereof. (A-35360) 10 Comp. Gen. 402.)

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TRAVELING EXPENSES - SUBSISTENCE - AIR TRAVEL

Travel on official business may be performed by airplane if the cost to the Government does not exceed the cost of the railroad fare, plus Pullman fare when the length of journey would authorize the use of Pullman accommodations, less land-grant deduction when applicable. When there is available train service leaving at approximately the same time which would not require the use of a Pullman berth, the cost of a chair only will be allowed.

When the travel is on an actual subsistence expense basis, reimbursement is authorized only for expenses actually incurred for subsistence, notwithstanding that it was less than it would have cost had the travel been by railroad. (A-35108) 10 Comp. Gen. 359.

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TRAVELING EXPENSES - AIRPLANE TRANSPORTATION

A direct saving to the Government in the matter of actual expenses subsistence or per diem in lieu thereof by reason of the shorter time required on an airplane journey may properly be taken into consideration in determining whether the cost of travel by airplane exceeded the cost by railroad.

The relative value to the Government of the services of an employee in a travel status as compared with such services at headquarters due to the shorter time required by the use of an airplane for official travel is too problematical to permit of its consideration in determining whether the cost of airplane transportation exceeds the cost of travel by rail. (A-35611) 10 Comp. Gen. 408.

NOTICE IN RE ADDRESSES AND ARTICLES FOR OUTSIDE PUBLICATION

Heads of Divisions:

Please note the following memorandum, dated June 9, 1931, from Mr. M. S. Eisenhower, Director of Information, in regard to the importance of furnishing the Office of Information with copies of all addresses and articles for outside publication:

"If the Department is to get the best distribution of its information, it is necessary that each bureau and office make special and continuous efforts to supply the Office of Information with copies of all addresses and all articles for outside publication. This applies to every person in the Department who delivers addresses or writes articles in his capacity as an employee of the Department.

Copies of such addresses and articles should be supplied to the Office of Information as far as possible in advance of the date of delivery or publication. Whenever it can be done the date and hour of the address or the approximate date of publication should be given.

Many offices have been regularly observing this requirement of the administrative regulations, but some have not. I wish that you would impress upon all the employees of your bureau the importance of observing it.

Matters worth discussion before a meeting or in a single publication, even a technical one, frequently deserve much wider distribution."

Copies of addresses or articles for outside publication prepared by members of your staff should be furnished this office for forwarding to the Office of Information, at the time approval for presentation or publication is requested, if possible.

Very truly yours,

B.P.I. Memo. 589
June 10, 1931.

Wm. A. Taylor,
Chief of Bureau.

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SATURDAY HALF HOLIDAYS - PART-TIME AND INTERMITTENT EMPLOYEES

Employees for whom no regular hours of work are fixed, whose employment is part time or intermittent, and who are paid by the hour for the time actually worked, are not entitled to the benefits of the act of March 3, 1931, 46 Stat. 1482, granting Saturday half holidays to certain Government employees. (A-36473) 10 Comp. Gen. 518.

LIFE INSURANCE FOR DEPARTMENT OF AGRICULTURE EMPLOYEES

It is desired to bring to the attention of the Federal employees a group insurance sponsored by the Department known as the U. S. Department of Agriculture Beneficial and Relief Association. This insurance is available to temporary or permanent employees of the Department and separation or retirement from the service of the Department does not affect membership in the Association or the insurance granted. The insurance once granted remains in effect as long as dues are paid.

The amount of insurance granted members of the Association is based upon the individual member's age (computed to nearest birthday) according to the following schedule:

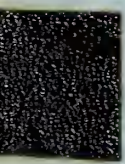
Up to age 46.....	\$1000
47 to 50.....	750
51 to 60.....	500
61 and over.....	250

Two units is the maximum which any member may receive.

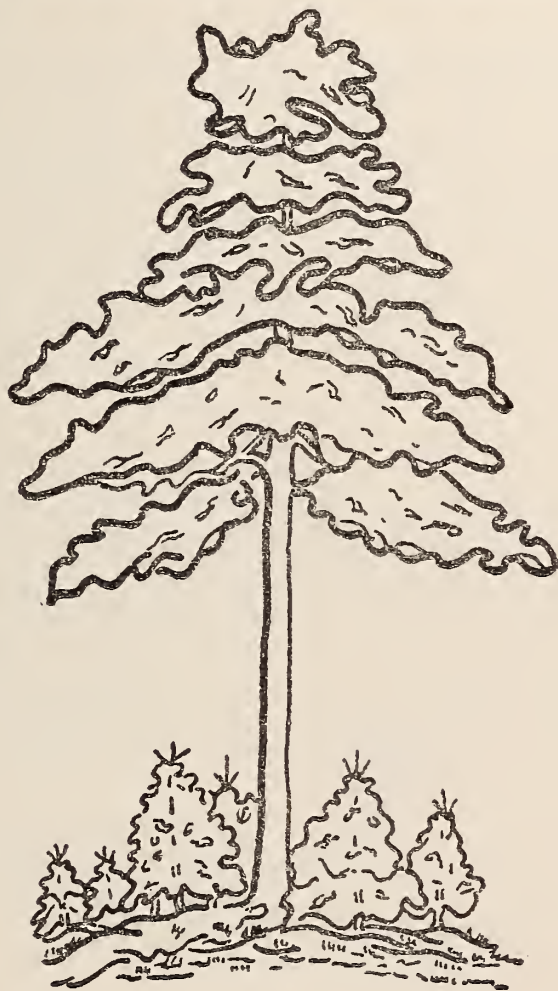
New appointees are eligible to membership and to one or two units of insurance without regard to age or physical condition provided application for membership is filed with the Sec'y-Treas. of the Association within 60 days from the effective date of appointment. Employees who have been in the service of the Department more than 60 days and who are in excess of 40 years of age are ineligible. Employees not 40 years of age may be admitted provided they are accepted as insurable risks by the insurance company.

The dues are \$12.00 per year per unit, payable to the Secretary-Treasurer of the Association in monthly or other installments. An additional membership fee of \$1 is required with application for membership regardless of the number of units of insurance applied for. These payments constitute the entire cost of the insurance.

Full information and application blank may be had on request to the Secretary-Treasurer, U. S. Dept. of Agri. Beneficial & Relief Association, Washington, D. C.



THE BLISTER RUST NEWS



August, 1931.

Volume XV

Number 8

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
DIVISION of BLISTER RUST CONTROL



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

THE BLISTER RUST NEWS

Issued by the Division of Blister Rust Control
and Cooperating States

Vol. 15, No. 8.

August, 1931.

PERSONAL CONTACT

Why are blister rust agents successful in obtaining the interest and cooperation of pine owners in control work? Is it the result of their educational or service activities? In part it is due to both, but another important contributing factor is personal contact. The agent lives among the people with whom he works, he becomes personally acquainted with them, he is accepted, respected and regarded as a friend. Naturally when the agent suggests that his friend's pine should be protected from blister rust, the latter is ready to do the necessary control work because he feels the agent is advising him as a friend who has his interest at heart and wants to help him. The agent who can call the people in his district by name, is the agent who gets cooperation. Studies by the Extension Service on over 10,000 farms showed that 91% of the families with whom the extension agent had personal contact reported making improvements, against 41% where the families received extension information without personal contact. This shows that personal contact with the people you serve gets results.

J. F. Martin.

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INFECTION FOUND ON PINE IN CHIPPEWA COUNTY, WIS.

Mr. Chambers, State Entomologist, and I discovered infected pine in a new county. This infection, in Chippewa County, is 12 miles due north of Chippewa Falls. The infection, as nearly as we could determine it, is 4 years old indicating that blister rust has established itself in that vicinity quite recently. This makes 13 counties in which we have found pine infections.

July 31, 1931.

T. F. Kouba, Wisconsin.

JULY IN MASSACHUSETTS

July in the Boston, Massachusetts Weather Forecast district, proved to be a rather normal July with its maximum of temperature (97 on the 28th) and its high relative humidity. There was a slight deficiency (1.06") of rainfall under the average for the month, although it seemed during the first two weeks that we were to have a repetition of our rainy June. Hail was experienced on the 24th.

The field force was almost equally divided during July between wild Ribes eradication and cultivated black currant location and eradication. Work was in progress in five districts or combined districts. In District II (Middlesex) wild Ribes eradication work was under way in the town of Ashby, the last township to require initial control work in that district. Agent Roop is having his first experience with skunk currant eradication on any extensive scale. In District III-IV (Southeastern) Agent Brockway and his men were engaged in reexamination work the first part of the month and on the 16th returned to the black currant project for the purpose of rechecking the locations found by Agent Brockway last winter in his personal canvass of the town of Milton and the city of Quincy. During that canvass, 2,581 black currants were found on 458 properties out of the 20,643 locations examined. In District VI (Worcester-North) initial eradication was in progress under the direction of Agent Clave in the last two townships (Barre and Holden) listed in the county as requiring initial control work. Black currant location and eradication was also under way in the extreme northern towns in the county. In Districts VII & IX (Berkshire and Franklin) the major effort has been devoted to the black currant project. Comment on this work will be found in another item by Mr. Doore in this issue. Agent Wheeler devoted the entire month in District VIII (Hampden-Hampshire) to the location and elimination of black currants.

Infection conditions on Ribes continue to be very prevalent in all locations. Casual observations with regard to the prevalence of the white pine weevil lead to the conclusion that this pest is not doing quite as much damage to pines this year as in recent seasons.

The work of the month may be tentatively summarized as follows:

<u>Regular Control Work</u>		<u>Special Black Currant Work</u>	
No. of cooperating owners :	83	No. of properties inspected:	39,248
No. of acres examined :	24,025	No. towns where work was in progress :	37
No. of wild Ribes uprooted:	53,318	No. plantings located :	267
No. of cult. Ribes removed:	216	No. black currants found :	3,000
Expended by cooperators :	\$713.68	No. black currants rem'd :	4,843*

* Includes plants located in previous months.

C. C. Perry, Mass.

FATZINGER SENDS IN THE FOLLOWING BLISTER RUST NOTES FROM PENNSYLVANIA

Educational and Service Activities:

In securing cooperation, 245 initial interviews and follow-up calls were made for the purpose of securing the eradication of wild and cultivated Ribes only, 71 for the removal of cultivated Ribes only, and 18 for general cooperation. Personal instruction in the field was given to 150 individuals.

Control Activities:

In connection with the regular control program, cooperation was secured from 58 individual property owners, involving the examination of 2178 acres of land on which 22,502 wild and 291 cultivated Ribes were uprooted, for which the owners expended the equivalent of \$185.72 during the month.

Seven Forest Districts carried on Ribes eradication work on State owned lands during the month. More than 1400 acres were examined and 229,988 wild Ribes were uprooted. The State expended the equivalent of \$2,436.26 on this work during the month.

Following are extracts from some of the letters and reports I have received from the other agents during the month which may be suitable for you to use in the Blister Rust News.

* * * * *

During the past week I finished up all work on the Pennsylvania Furnace area and started on several new townships. The major problem on the Furnace area was one which I expect will be quite common in this section of the State. There were very few wild Ribes in the main pine area. At first the proposition looked fairly easy but on closer examination I found cultivated currants at every farmhouse along the line. The outstanding thing there was that very few of the farmers owning currants owned pine. I found out through the rural mail carrier who the local news carriers were and approached them first. They, of course, wanted to be at the forefront in this new movement in cleaning up the neighboring pine stands. They pulled their bushes and passed the work on to their neighbors. After interviewing the most promising prospects, I turned my attention to the farmers who were slow in accepting new ideas. The result was quite encouraging, every owner of currants in the protective area gave me one hundred percent cooperation. One hundred and eighty cultivated bushes were pulled, of that number, 104 were infected. Through their splendid cooperation, the farmers in Ferguson Township have given absolute protection to 700 or more acres of fine second growth pine.

One day I pulled up to a farmhouse which I had purposely missed and walked down to the spring for a drink. The farmer's wife came down and asked me if I wasn't going to ask her to pull up her currant bushes, she couldn't understand why I talked to all the neighbors and did not approach her. I pulled her bushes and left the woman completely satisfied that she had contributed her share to the cause. The reason that I skipped her in the first place was that she told the mail carrier that she would not pull her currant bushes for all the pine in the township. After seeing her neighbors pull their bushes she evidently experienced a change of heart and was only too glad to fall in line with the others.

Ferguson township is practically completed, save for one possible eradication job with a crew. College township is completed while Franklin and Half-moon are nearly so. I took a run through Worth township and did not find a single stand worth mapping or examining. That region was inaccessible last winter.

July 24, 1931.

J. J. Gackenbach,
Huntingdon and Centre Counties.

* * * * *

The first two weeks were spent in the Weiser District instructing the inspectors in identification of blister rust and its host plants, in scouting and eradication methods, also in the use of forms. The personnel receiving this instruction were Inspectors Shelhamer, Derr, Jackson and Matalavage, temporary Inspector Beechler, Forester J. M. Sloan of the Anthracite Protective Association. On most of the trips it was possible for District Forester Middour and Assistant Forester Carlson to be present. There are numerous plantations and natural stands of pine in this district which are well worth protecting from rust. I believe that securing the cooperation of owners in stamping out the disease in that area will not be a hard task.

The remainder of the month was spent with the agents in Tioga, Bradford and Susquehanna Counties.

Several experiences they have had may be of interest:

Agent McKinney whose headquarters are at Wellsboro was approached by a man in the Middlebury Center region to buy a subscription to a local weekly newspaper which was conducting a contest. A neighbor and friend of the contestant had refused to clean up his pine lot in which the rust was present. McKinney bargained with the contestant, the net result was McKinney has a subscription to the weekly paper and the pine owner has eradicated his currants and gooseberries.

Aug. 1, 1931.

R. M. May

* * * * *

The following is a brief report of my activities during the month of July, 1931.

I scouted, interviewed the owners and mapped all white pine stands in the following townships: Potter, Gregg, Penn, Haines, Walker, Miles, and Spring in Centre County. Also sections of Logan, Porter, Greene, and Lamar townships in Clinton County.

Specimens of blister rust and blister-rust literature were distributed to the country stores and public places. The nature and damage of blister rust was explained to anyone showing interest.

Ribes growing wild are found in abundance, with one or two exceptions, in every township scouted. Cultivated Ribes are not so plentiful, about one home in three owning one or two bushes. Infection on wild Ribes is general, while only one case of infection on cultivated Ribes was found. Pine infection in spots was found in Miles, Gregg, Penn and Haines townships in Centre County, and Greene township in Clinton County.

August 3, 1931.

Samuel Kern,
Centre County.

During the month of July, I did not succeed in completing very many eradication projects, but I have succeeded in covering quite a bit of territory, locating and scouting pine stands and interviewing the owners. In most cases they agreed to eradicate later. Their problem is lack of help in harvesting and the delay caused by rain. It looks as if there will be considerable eradication work done after harvest.

August 3, 1931.

W. M. Palmer,
Susquehanna County.

* * * * *

A start and some progress have been made in the following townships: Lewis, Old Lycoming, Mifflin, Hepburn, Armstrong, Susquehanna, Bastress, Limestone, Washington, Clinton, Muncy and Cummings. During the coming month the work will be more confined to areas having pine stands badly in need of eradication and an attempt will be made to clean up several of the above mentioned townships.

In general, the people of this section are interested and willing to cooperate as long as they do not have to make any sacrifices or expenditures that might benefit their neighbor. A number have shown their willingness to remove cultivated currants, but a number of call-backs shows that it will be necessary to remove them on my own time. After this has been done the number of acres eradicated will be increased materially. Along with the willing and the interested there are a number who are apathetic or handicapped by lack of money.

A close watch has been kept for black currants, Ribes nigrum, three patches being found and 26 stalks pulled. A large patch on the lands of the Williamsport Water Co. will be pulled in the near future, and a thorough scouting made for others.

A large part of the work started will carry over into August. At present there are two areas on which eradication will no doubt be done with a crew and several other areas will be cleaned with the removal of cultivated currant patches.

August 1, 1931.

J. Wayne Chalfant
Lycoming County

* * * * *

The majority of the owners interviewed have expressed their willingness to eradicate, but were too busy at present with haying to do any eradicating. A large number have promised to begin eradicating as soon as they have finished.

I believe the worst trouble I am having in this district is in securing eradication of cultivated Ribes. Several of the pine areas in this district are so situated that the land adjoining is owned by a different party who has cultivated currants or gooseberries, but no pine. I have not had many eradication jobs in the last month. What I did get were scattered over the entire district

wherever I found an owner who was not busy, or if I happened to be there after a rain when the farmer could not go on with his haying. An instance of this kind happened while I was interviewing an owner near Tioga. He gave the usual excuse when asked when he would eradicate, which is something like this, "As long as the weather is fit for haying I can't stop to pull goosberries." A sudden storm came up while I was still talking to him. I then asked if he could eradicate. We waited till the shower passed and then pulled the gooseberries. The farmers in this section will be through haying in a few days. I then expect to be very busy eradicating Ribes.

There is not a great deal of pine in the southern part of this district. The majority is in plantations. The owners of a number of these have already eradicated. Gooseberries are also scarce in the southern part of the county. I have found them only along fence rows.

Clayton A. McKinney.
Tioga County.

August 1, 1931.

* * * * *

G. G. Lane, owner of 40 acres of beautiful white pine reproduction, was very much interested as well as surprised upon learning the danger his pine was subjected to. It didn't take much work to get Mr. Lane to eradicate, all it took was a little psychology and a little time helping him unload a load of hay.

Lin Reynolds, who realizes approximately \$100 per year from thinnings of his $2\frac{1}{2}$ acres of pine, in the form of Christmas trees was very willing to eradicate. Since he was "haying" a rainy day was selected for the work to be done. We didn't have to wait long for rain and besides getting the Ribes all pulled we got wet.

It is well to mention that Armenia Township is also cleaned up for the simple reason that no pine stands can be located in that township. Next week will find Leroy Township also cleaned up when Lin Stone and Mrs. Belle Chapel eradicate their Ribes. Both have promised to do so within the next ten days. Incidentally, in order to get Mrs. Chapel's O.K. I was forced to listen to her pet subject "The Abolition of Interest" for almost two solid hours. However, patience brought results.

It is doubtful whether South Creek Township will be finished this year. With approximately seven plots to eradicate of Ribes, as yet only two have given their word that they will eradicate about August 15th.

Marco DeBerti
Bradford County.

August 1, 1931.

Sincerely yours,

R. P. Fatzinger

NOTES FROM BERKSHIRE AND FRANKLIN COUNTIES, MASSACHUSETTS

A Double Record

In Franklin and northern Hampshire Counties in western Massachusetts, 4 men canvassing for Ribes nigrum from July 6 to 31 completely inspected the 16 towns listed as follows: Ashfield, Buckland, Charlemont, Conway, Cummington, Deerfield, Goshen, Hawley, Leverett, Monroe, Montague, Plainfield, Rowe, Shelburne, Sunderland, and Whately. This in itself should constitute one record. The other record is that the results of this canvass show that only three patches of nigrum were located. These consisted of but six bushes.

In addition to the above, the 4 men spent the first 3 days of July canvassing for Ribes nigrum in the cities of Adams and North Adams in Berkshire County. During that period, 53 patches of nigrum were located, representing 409 bushes. None of these were eradicated because they were bearing fruit which was not ripe.

She Sets Them Up

Mrs. James Graham of 40 Marion Avenue, North Adams, Massachusetts, spied our Inspector in her garden hunting for Ribes nigrum. She immediately advised him that "It will take all of your time to walk by". The Inspector however, lingered long enough to explain and complete his mission. "Then according to you", says Mrs. Graham, "the black currant is the root of all evil. I have something here that is the root of all good". She disappeared to return in a moment with a full quart of root beer and invited the Inspector to help himself. He did! The official thermometer registered 96 degrees in the shade on this particular day. The "Transcript", a local paper, reported 108 in the sun.

Infection on Pine Found at Last in Adams, Berkshire County, Mass.

For some years we have known that every township in Berkshire County with the exception of Adams, had infected pine. Search had never revealed the rust on the pine host in that city. On July 2, however, several badly infected pines were found in a plantation on the watershed of the Adams Water Company. Infection was apparently caused by a clump of flowering currants a short distance away. Cankers dated back to 1925. We are of the opinion that a more careful search will disclose cankers dating back much earlier. This infection was located during our canvass for Ribes nigrum in Adams.

Agent Has New Office Quarters

On July 31 we moved into new office quarters with the Hampshire County Extension Service. The new office is located in the basement of the new Court House Annex at Northampton. This change provides much needed space for all concerned. We are grateful to the Extension Service officials for permitting us to share the new office quarters with them.

August 4, 1931.

G. S. Doore, Mass.

FORD MOTOR COMPANY INSISTS UPON USING ITS OWN EMPLOYEES FOR CONTROL WORK
AND PAYING \$7.00 PER DAY

One of the first control projects which was performed this season in the Upper Peninsula of Michigan was done for the Ford Motor Company on the Blueberry Mine property. When the agent in charge asked for a five-man crew and suggested that he could pick up a crew of young men at the prevailing wage scale of 35 cents per hour he was told that the company would rather use its own employees at the minimum rate of \$7.00 per day.

The men selected to do the work were busy at the time painting a large water tank at the mine and as it would not look right to leave the tank only half painted our foreman had to wait until the tank was painted. In a few days the paint job was completed and the foreman got his crew. Foreman Don White has handled many crews during the past two years, but says that the Ford crew was the best he has worked with. We had estimated that the project would require 8 full days, but it was completed in a little less than 6 days. The mine officials were impressed with the intensity and thoroughness of the work and seemed well pleased with the results. Seven hundred acres of white pine were protected, 1240 acres cleared of Ribes at a cost of \$196.90 to the owner or about 16 cents per acre. 42,890 bushes were pulled, chiefly Ribes triste and R. Glandulosum.

The men who made up the crew were iron miners, temporarily above ground, doing odd jobs about the grounds. This incident seems to support the old saying, "You get just what you pay for."

John K. Kroeber, Mich.

July 15, 1931.

RIBES NIGRUM FOUND ON PREERADICATION SURVEY

Mr. Carl Burgtorf, while making a preeradication survey, discovered Ribes nigrum apparently escaped from cultivation. These bushes were located on the south margin or high water mark of Wilson Lake adjoining Camp Dan Beard, near Whitehall, Michigan. They had more or less grown together but would say there were about 25 crowns. White pines were growing all about these plants and in fact some places touching them, thus making ideal associations for infection. The area was carefully looked over but no infections were noted on either the white pine or black currant.

There is an old farmhouse located about 40 rods from this area and at least 300 feet back from the west side of the lake. Only one black currant was found near the house.

There is evidence of cultivation a number of years ago of all kinds of bramble fruits, but no cultivated black currants outside of the one bush. People living on the farm knew nothing of the existence of the bushes. It is barely possible they were planted, but my experience says no. How about it?

R. I. Thompson, Michigan.

OBSERVATIONS ON REEXAMINATIONS IN NORWELL, MASSACHUSETTS

Our 1931 plan of work for the Southeastern district called for re-examinations in the town of Norwell, in Plymouth County, as our first task of the season. Norwell is one of our prize white pine towns and in our initial control work wild Ribes were more abundant there than in any other township in the district. This was the principal reason for listing the town first on our plan for reexaminations.

The work this year was not approached with much enthusiasm because of our experiences in 1923 involving the eradication of cultivated Ribes. In that year, it was necessary to destroy many a planting of cultivated Ribes, including one patch of 2200, other patches with 50, 100, or 200 bushes and the usual back-yard garden exhibits of six or a dozen plants. Our fears that this antagonism had persisted and would interfere with our reexamination program were unfounded, however, and we have been favored with an even better spirit of cooperation than that which prevailed during the initial work. This has been an agreeable surprise.

This change in feeling may be due in part to the fact that the damage by blister rust has become more evident in the intervening years. This condition of affairs has been broadcast through the town and the residents have been educated to the fact that continued vigilance in keeping Ribes from their lands is essential if further damage by the rust is to be prevented. This spring we have been able to find the disease-spot infections in practically every woodlot examined. In acquainting owners with this condition of affairs it has been necessary to stress the point that the increasing evidence of the disease has not come about as a result of a recent spread, but rather that it results from infections that had taken place before 1923 but which were not evident at that time. We did find one area in particular where the disease had continued to spread with a vengeance. On this area, the Ribes (R. vulgare by the way) were not removed in 1923 because of the feeling that the pines would not pull through the over-topping hardwoods. These pines have persisted, however, and a high percentage of them have become infected. This area will be used as a study plot to show the continuance of infection where Ribes are not removed.

In our examination of the town, completed on June 3, we found that in spite of quarantine regulations, etc. a few people had replanted Ribes. With one exception, no difficulty was encountered in having the few plantings destroyed. In one case, it required the combined service of one Corporal of State Police, the Blister Rust Agent and two State blister rust employees to secure the removal of one lone red currant. The owner's attitude in the case was recorded as "fierce." Our records show that during the initial control program in Norwell, 8,744 cultivated Ribes were destroyed. In the reexamination project, 235 bushes were found under cultivation.

In the woodlands, we found, as might be expected, an abundance of seedling growth. We have been most impressed, however, by the changed conditions as regards forest type. Many an area that in 1923 seemed to have too little pine to warrant control work, now supports a splendid growth of white pine. Other areas have, of course, been clear cut and are reverting to hardwoods. In the initial work we found 29,092 wild Ribes. This spring our preliminary records indicate a total of 27,183, and on a larger acreage than that covered in the original work.

July 15, 1931.

E. M. Brockway, Mass.

RIBEITIS

"Have you had Ribeitis yet?" That is a question commonly asked of new crew members after they have been at work for a few days. Who originated the word I do not know, but it has been in common use among crew members in my district for years. Ribeitis as you may guess is the apparition of Ribes leaves which most men see on closing their eyes after their first day of the season's activity in bush pulling.

If a new man survives the mouthful of "Indian Turnip" which he is beguiled into eating, and has a good case of Ribeitis after his first day's work, the foreman usually assumes that he will make a good "Ribee" man.

One man, who by the way is doing advance scouting for a crew, came to me after several days at the beginning of his crew career. He had learned all about "Indian Turnip" by making the painful mistake of swallowing it instead of spitting it out; he had a painful case of ivy poisoning and had broken out beautifully with brown tail moth itch. "I'm afraid I won't make a very good crew man," he said. I was surprised as he had been doing very good work for a beginner and I told him so. "Well," he answered, "some of the boys said that no one who hadn't had Ribeitis ever amounted to anything, so I thought I ought to tell you about it because I don't think I've had it yet." I expressed the opinion that the disease had perhaps been delayed for some reason in his case and that there was ample hope that he would sometime contract it. He is at present one of our reliable scouts, though I am not sure that he ever had Ribeitis.

If anyone knows where the word originated, I would be interested to hear.

L. C. Swain, N. H.

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ADDITIONAL NOTE ON BLISTER RUST AT THE ASHOKAN RESERVOIR, NEW YORK.

Reference is made to a news note in the July issue, page 163, on the finding of infection at the Ashokan Reservoir. State Leader McIntyre calls my attention to the fact that Mr. Jackson's account of the infection was not the first, for Messrs. Strait and Richmond on March 30, 1929, found a dozen or so stem cankers at the Reservoir. Some of them showed aecia on that date, which was one of the earliest dates for aecia in the East. The white pine plantations around the Ashokan Reservoir were protected several years ago. The finding of the infection in the plantations by Mr. Jackson this year shows the advisability of checking up on the once protected areas and the necessity for prompt Ribes reeradication where new infections are found. We are glad to know that Agent Strait is following up the matter.

R.G.P.

BLISTER RUST RUINING WHITE PINE TREES IN DULUTH, MINNESOTA,
BERRY BUSHES CAUSE OF HAVOC.

On Woodland Avenue, between Minneapolis and Anoka Streets, is a three-acre plot of 3,000 white pines that are serving as "horrible example" of what white pine blister rust does to the tree that once provided timber operators in this State with great wealth.

L. B. Ritter, State blister rust control leader, has tagged trees, showing the effects of the disease for the purpose of warning white pine owners and others what blister rust will do if uncontrolled. ****.

The trees in the woodland plot of ground were planted in 1914. Rust was first found in the tract in 1925, but because there was no agency in the State interested in the control of disease, nothing was done to prevent its spread. The extremely susceptible cultivated black currants in nearby gardens and large numbers of wild currants in the wooded tract alongside the planting, yearly added to the spread of the disease. Today, 90 per cent of the trees in the planting are infected and will die during the next few years. ****.

Jay Cooke Park, the Chippewa National Forest and the Cloquet Forest Experiment Station are some of the places where white pine blister rust control measures are being taken this summer.

Blister rust control agents have destroyed approximately 100,000 currants and gooseberries this summer in twenty-five areas, in cooperation with pine owners.

Extract from the Duluth Herald for July 24, 1931.

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COPIES OF A TRANSLATION OF AN INTERESTING
ARTICLE ON STOMATA AVAILABLE.

We have on hand a very limited number of copies of a translation from the German of an article by Erich Leick entitled "Investigations of the Influence of the Light Upon the Width of Opening of Stomata on the Lower and Upper Face of the Same Leaf." We would be glad to loan a copy to any one interested.

LARGE RIBES BUSH FOUND IN MICHIGAN

Tom Robertson looking for black currants in Whitehall, Michigan finds an escaped bush to which we lay claim as the largest so far taken in. This plant was found on the west side of a railroad embarkment, growing in cinders at the bottom of the bank. The growth extended into debris from an old saw-mill. Moisture conditions were good. Extreme height of plant 6 feet and covered about 400 sq. ft. of ground. One branch alone extended the length of Ford truck and reached top of cab. Estimated amount of leaf surface 288,000 sq. inches. We counted 207 separate crowns. Come on somebody and give us a better one. We have the picture to back us up.

R. I. Thompson, Michigan.

NOTES ON WORK IN CONNECTICUT

Messrs. E. C. Filler and H. N. Putnam visited the Salisbury Blister Rust Camp, August 4. They examined study plots and checked eradication work on the Salisbury reeradication project. Some time was spent examining our field records and mapping system.

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Two of the Selectmen and six of the larger pine owners in the town of Thompson were entertained by the Salisbury Blister Rust Camp August 3. Agent Root guided the party across the State examining a small demonstration area in Woodstock en route. A trip was made through the Salisbury demonstration area and a beefsteak dinner was served at camp. They were impressed with the amount of damage in evidence and unanimously favored placing a State quarantine on Thompson prohibiting the possession of cultivated currant and gooseberry bushes within 900 ft. of pine. The question of town approval of the proposed quarantine is to be brought up in the next town meeting.

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A State quarantine order was issued August 5 by the Director of the Connecticut Agricultural Experiment Station prohibiting the growing or possession of cultivated currant and gooseberry plants within 900 ft. of white pine in the town of Salisbury. Such quarantines have previously been placed on North Canaan and Norfolk and it is expected that a similar quarantine will be placed on the town of Canaan, providing approval is given at the special town meeting to be held soon.

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Blister rust displays have been placed at five State parks. These should prove especially effective since no commercial advertisements are allowed at these places.

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Agent B. R. Park and Scout W. W. Hubbell report heavy infection on Ribes hirtellum and vulgare in Somers and Ashford. In previous years infection has been light on hirtellum in the northeastern part of the State.

August 6, 1931.

J. E. Riley, Conn.

SUGGESTION TO STRAIT IN RE COPPERHEADS

I note that Mr. Strait in his article on "Copperheads in the Pine Belt of Ulster County, New York," which appeared in the July number of the Blister Rust News, asked for suggestions as to the working of a snake infested area.

For several years I have been engaged in nursery sanitation work around the Forest Service nursery at Parsons, West Virginia. Turkey Knob, one of the rocky hills adjacent to the nursery which runs up 750 feet above the nursery flat, is notorious as a rattlesnake-copperhead resort. What do I do about it? Knowing the predilection of snakes for warm weather, and the fact that Ribes plants sprout in cool to cold weather, even living through freezing weather without receiving damage to the young, unfolding leaves, I work this mountain side in the very earliest days of spring possible. In 1931 Ribes eradication began on April 23. Previous to this date a week or two of warm weather had brought out a few of the Ribes leaves. This early start kills several birds with one stone; namely, gets more Ribes at a reasonable cost, for most other vegetation is dormant, and gets the work done without danger from the snakes.

So, Strait, why not separate your snake areas from the non-snake areas and plan to work the former in those cool, early pre-snake days, say below 40° Fahrenheit.

I have heard informally from one of the members of the Biological Survey and others from the Smithsonian Institution that snakes do not become very active below 40° F. I have been trying to check up on the exact temperature at which copperheads become active and have written 3 of the leading authorities on snakes in the East concerning the matter but as yet have had no reply.

Roy G. Pierce.

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NEW SPOT INFECTION AREA FOUND IN RHODE ISLAND

Heavily infected Ribes and several infected pines have been found this summer in West Greenwich, Rhode Island. This new spot infection area was probably caused by the rust spreading from wild gooseberries in the vicinity. The origin of infection shows that in most cases the disease spread to the pines several years ago.

A. W. Hurford, R. I.

NOTES FROM NEW YORK

Comments on the Weather

According to the July issue of the News Letter there has been plenty of rain in the New England States. I might put in a word for New York State by saying that we have had plenty of it, too. Ground cover in July has been very dense, which of course affects the progress of the work. July was a very hot month, as well. Some of the days were very trying on the men, especially those who were unfortunate in working at low elevations where the humidity was bound to be greater.

Methods of Checking

I am glad to read of G. F. Richardson's comments on their improved method of checking in New Hampshire. The system as I understand it is similar to the one adopted by New York State last year, and which has proved so successful here. All of the New York Agents are enthused over it and although it was criticised last fall at the Federal Conference, I think another year, or rather this fall, sentiment will be stronger than ever in its favor.

Messrs. McIntyre and Strait Take "Strenuous" Trip

Lest Mr. McIntyre overlook this important news item I wish to say that I accompanied him on one of his "early rising, late-at-night" trips through Washington and Warren Counties one day last week. Besides inspecting numerous eradication jobs with him, I listened to him address a Boy Scout Council Camp of 60 boys in Washington County, and give another interesting talk to the young men who are at the State blister rust camp at Tongue Mountain. If any of you men think that a man is all in at around 50, you want to rest up a week and step out with McIntyre.

August 1.

H. G. Strait, N. Y.

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DIAMOND SHAPED POSTERS AVAILABLE

Our order of the diamond-shaped posters entitled "This Pine Lot Has Been Protected from Blister Rust by the Removal of Currant and Gooseberry Bushes, and "These Pines Have Been Protected from Blister Rust by the Removal of Currant and Gooseberry Bushes," have just been received from the Government Printing Office. A supply has already been sent to each of the State Leaders in the East. If the agents have not already received some of these posters, they probably can receive them from their State Leader. A larger edition was printed of diamond-shaped poster No. 1, "This Pine Lot Has Been Protected from Blister Rust by the Removal of Currant and Gooseberry Bushes," than the poster beginning with "These Pines." The Washington Office still has a small supply of both posters and will fill orders after the State Leaders have exhausted their supply, that is, as long as our supply lasts.

R.G.P.

CHANGE IN MAINE'S WHITE PINE BLISTER RUST POLICY

During the period 1922 to 1930, the State and Federal Governments have conducted white pine blister rust control work with towns and pine owners, the two former parties furnishing the educational, scouting, and supervisory work, and the towns and pine owners furnishing the eradication labor. Town funds were used for the hire of a "town foreman" who was added to the pine owner's labor to make up an eradication crew. While pursuing this policy over eleven thousand pine owners in one hundred and sixty-five townships and cities in the twelve southern pine counties obtained a working knowledge of blister rust control.

The above policy was used during the so-called "Eight Year Period" and was expected to have completed the initial control work in the white pine area of the State. By having the pine owners furnish the eradication labor, either by working themselves personally or by hiring labor, it was expected that they would continue to protect their pines by practicing control measures upon their own initiative. However, owing to so many towns failing to appropriate funds to finish the work once started, and the time required to get many owners to eradicate Ribes, - plus "a hundred and one" other reasons, it was very apparent that if the future white pine crop of Maine was to be protected from blister rust a change in the working policy must be made at once. After due deliberation it was decided to adopt a policy of offering to meet all town appropriations on a fifty per cent basis, and using crew work only. The towns were to spend one hundred and fifty per cent of their appropriations, and, upon completion of the work, the State would reimburse the towns thirty-three and a third per cent of the amounts spent. This idea met with the approval of practically all towns approached this spring, the result being that we are now using the policy in fifty towns and cities this year. In addition many large private jobs are being done, with several more in prospect. Already the benefits derived from the change in policy are apparent - we are doing much better work and with less effort, and, above all else the pine public is now satisfied. The public does not like being compelled to eradicate Ribes. They say "We will appropriate funds under this policy, and you do the rest."

The only regret we have is that we did not adopt the above policy years ago.

August 4, 1931.

W. O. Frost, Maine.

DERACINATE - TO UPROOT BY HAND

Deracinate - what a word! Look what has come out of the West. It seems that not all of the erudition of the Division is situated at the Hub. "Put" Putnam has brought this word in to look at - but I don't believe it is intended for use. The dictionary says deracinate means to uproot by the hand. A racine means root as we all know, or ought to.

R.G.P.

WHITE PINES ON NANTUCKET ISLAND, MASSACHUSETTS APPARENTLY SAFE FROM
BLISTER RUST

Last winter, blister rust was reported in a pine plantation on Nantucket Island, Mass. by Agent Hodgkins. Time and conditions did not then permit of a determination of conditions as to the distribution of Ribes.

Pine Infection

On July 9, I accompanied Mr. Lincoln Crowell, District Forester of the Massachusetts Department of Conservation, to the Island for the purpose of ascertaining, if possible, the need for control work on the Island, particularly with reference to the State forests. There are two such areas on the Island, one comprising 100 acres, one half of which is in white pine, planted about 15 years ago. The other comprises about 40 acres, of which 20 acres are in white pine planted about 12 years ago. In the larger area, one blister rust canker was found dating back to 1915 and from all appearances originated on the stock when planted. No cankers could be found in the smaller lot.

Wild Ribes Not Present

A thorough search was made in the immediate vicinity of both plantations and no wild Ribes could be found.

No Cultivated Ribes (Including Black Currants) Within One Mile

The nearest cultivated land or house lot to either of the two forest areas is 1000 feet distant. A search was made of all house-lot properties within one mile of each area and no black currants, or any cultivated Ribes whatever, could be found.

Infection on Cultivated Ribes in the Village

In order to obtain some knowledge of infection conditions elsewhere on the Island, a survey was made of the house lots in the village at a point almost two miles distant from the State forests. In this survey, one flowering currant found was apparently uninfected; one small red currant was found with diseased leaves.

High Wind Velocities Ruin Fruit Crops and Damage Tree Growth

During the course of the survey, one resident whom we interviewed advised that he formerly had 100 gooseberry plants under cultivation, together with raspberries and blackberries but that he had abandoned them all because the high wind whipped off the fruit before it ripened. We had previously noticed in the pine plantations that the wind had apparently dried out some of the pines, leaders and side branches on many of the trees being completely devoid of needles.

A visit to the local U. S. Weather Bureau Station was made and Mr. Grimes, in charge, confirmed the observation regarding wind damage. He was authority for the statement that the high September winds are particularly damaging to the apple and pear crop. He also stated that Ribes were particularly difficult to grow except in very sheltered places. Storms are from

all quarters, although the most damaging are from the northeast. Storm winds across the Island average between 35 and 40 miles an hour. The shade trees in the village are decidedly wind battered, one sided, and of slow growth.

No Blister Rust Problem on the Island

It would appear from our observations and from the information furnished by Mr. Grimes, that cultivated Ribes will not enter into any blister rust problem on the Island, either present or future. As far as the present is concerned, all the white pine on the Island is located in the two State forest areas. The pines here are apparently completely secure as far as blister rust damage is concerned; any infection that may have been present has almost entirely disappeared because of the complete absence of the alternate host plants within infecting distance.

No Weevil Damage in Evidence

On this inspection trip we were particularly favored in meeting Mr. MacAloney and Mr. Johnson of the Northeast Forest Experiment Station at Amherst. It will be recalled that Mr. MacAloney is actively engaged in research work relative to the white pine weevil. The results of our inspection relative to the weevil can be summarized by stating that not a weeviled tree could be found in either of the plantations.

August 3, 1931.

E. M. Brockway, Mass.

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DISSEMINATION OF THE CULTIVATED RED CURRANT, RIBES SATIVUM, BY BIRDS.

This season a large number of cultivated red currants have been found scattered through the woods over large areas in at least two towns in Carroll County. Recently on a B.R.#1 a crew reported, as wild Ribes, 160 red currants pulled. The bushes were found along stone walls and under old apple trees, with once in a while a bush in a moist place. No other Ribes were pulled by the crew or scout in two blocks where the red currants were found.

The source of the Ribes is usually a few cultivated bushes at a farm or dwelling nearby. Red currants often persist near an old cellar hole where the buildings have been burned or torn down as long as fifty years ago. These currants are picked by the birds and scattered over the countryside. There is more infection on these Ribes now than there was a few years ago. I am of the opinion that red currants should be removed even though they are more than 900 feet from pine.

S. H. Boomer, N. H.

"RIBES ISLAND," SOUTHBORO, MASSACHUSETTS

In our control work this spring on the Sudbury Dam Reservation of the Metropolitan (Boston) Water Supply System, there are several acres of land once a part of the surrounding mainland but now islands in the extensive system of reservoirs. These islands range in extent from over 100 acres down to mere promontories just rising above the surface of the water. Some of these islands were absolutely Ribes-free while on others Ribes hirtellum and R. americanum abounded, the former being found in large mats covering considerable areas. One small island interested us particularly because it consisted of a mere ledge not over a tenth of an acre in area, where it would be difficult to scrape up a bushel of soil. We were almost certain that it would be Ribes-free but upon examination our men found that it supported a population of Ribes hirtellum numbering 231 plants, varying in size from the smallest of seedlings to large fruiting bushes. On a check of the island, subsequent to the completion of control work by the crew, two seedlings of this year's germination and hardly recognizable as Ribes, were detected. Incidentally, this island which we have christened "Ribes Island" is reached by rowboat after a good half-hour's pull on the oars from the "headquarters" where departmental regulations require that the boat must be "docked" each night.

July 15, 1931.

W. T. Roop, Mass

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KILLING RIBES WITH SALT

In eradicating currant and gooseberry bushes to control the white pine blister rust, many different methods are used. Aside from the usual way, (man power), horses, tractors and trucks are brought into action on the larger bushes, and the chemical spray method has been used to a moderate extent. In Clinton County, New York, "salting down the roots" was tried out on a very large gooseberry bush growing in a fence corner, with many of the branches intertwined around the rails. To remove the bush it would have been necessary to take down, and of course replace the fence, which would have required a considerable amount of time, so it was decided to try salt around the roots. About 15 or 20 cents worth of fine table salt was carefully sprinkled on the ground at the base of the stalks. In about a week the leaves began to curl up and in ten days the bush was completely defoliated.

No doubt this method could not be used to any advantage on a large scale, but for large bushes along fence lines, stone piles or in a difficult place to pull, I think salting the roots, or the use of a strong brine, would be very satisfactory.

H. W. Holcomb, N. Y.

Note: It has been suggested that it would be wise to check back on this bush in the spring to see if a complete kill was obtained.

BLISTER RUST TAGS LAST FOR YEARS

Agent G. S. Doore of Massachusetts recently sent in a blister rust tag which was taken from a small infection area in Shelburne, Massachusetts. The tag was wired to a small tree in 1925 and had been on the tree ever since. The tree has been dead for at least 3 years. Most of the wording on the tag is still legible, at least that part that says "This - Blister Rust Canker." It looks as if this tag has lived 6 years. However, it probably showed signs of old age about 2 or 3 years ago and should at that time have been removed if the infection area was still used as a demonstration. It would pay, I believe, to keep track of these demonstration areas and keep the tags and signs in good shape as long as the area remains a demonstration area. Mr. Stevens pointed this matter up very well in his article in the July issue of the Blister Rust News.

Thanks Doore for sending in this ancient tag.

R.G.P.

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MARTIN FINDS SCOLYTID CAUSING PINE TWIG INJURY IN MINNESOTA

On a recent trip to Minnesota, Dr. J. F. Martin found that the white pines, 50 to 60 years old, in the Interstate Park at Taylors Falls, Minnesota, showed an injury to the twigs of the lower branches. The twigs collected showed the terminal cluster of needles already dead. On examination of the twig a very small beetle was found which had bored out the pith of the twigs where the needles were still retained. The beetle was identified by Dr. M. W. Blackman of the U. S. Bureau of Entomology as Myelaborus ramiperda Sw. This beetle was formerly known as Pityophthorus ramiperda. Dr. Blackman states that the beetle generally attacks the twigs on the lower branches and does not, therefore, create the damage that it might do if its habit was to attack the twigs on the upper branches and the leader.

While visiting Dr. Blackman in Washington I learned that another species of Myelaborus, namely, M. fivazi, found on Norway or red pine was named for Mr. Al Fivaz who collected the specimens and made a study of them with Dr. Blackman in 1921.

R.G.P.

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PHENOLOGICAL DATA

State Leader H. L. McIntyre of New York notes on July 29th that "Infection is very heavy and the Ribes leaves are already falling. We have records of complete defoliation of Ribes bushes."

WHITE PINE VENEERS IN DEMAND

The American Plywood Corporation of New London, Wisconsin, is experiencing quite a demand for white pine veneers, particularly from people who wish to reproduce Early American architecture in their homes. Apparently this architecture is the first and only true design created entirely in this country. The plant manager informed us that this veneer has become increasingly popular the last few years.

The wood itself is made of 3 ply 3/8 inches, good one side, and sanded one side. During our visit two fellows were sorting a quantity of white pine lumber and were careful to accept only boards which had small round knots in them in fact it was necessary that these boards have numerous small round knots as that is a characteristic of the Early American design. Lumber with spike knots was immediately discarded.

This architecture is not only used in living rooms and dining rooms in homes of true Early American style, but there must be even a more practical application since one of the company's large orders came from the Thompson Restaurants' chain.

This merely helps to keep us informed of the innumerable uses of the grand old tree, the white pine.

July 30, 1931.

T. F. Kouba, Wis.

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THEY GROW THEM BIG IN MICHIGAN

Here's a little item about a big white pine tree which was cut in Alger County recently by one of the large lumber companies. When the tree was felled, the roots were cut and the tree toppled over; then the butt was made ten feet long. This ten-foot stump was taken down to the village of Nahma and set up there in the park as a reminder of the days of white pine. This tree was twenty-one feet in circumference at the butt, and in addition to the ten-foot stump it developed six sixteen-foot logs and one twelve-foot log. The diameter of the top was ten inches. The logs scaled 5,835 feet. That was some tree! I'll try to get a picture of the stump when next I visit Nahma in Delta County.

John K. Kroeber, Mich.

NOTES ON WHITE PINE WEEVIL CONTROL

Agent Barber of New York has furnished us with the following report from Mr. Tom Luther, Jr. on the weevil control work performed on the plantations in his Forest Preserve. So far this work shows that he has obtained very good results in controlling the weevil.

J.F.M.

The operations particularly referred to were carried out on the Luther Forest Preserve in the Towns of Malta and Stillwater, Saratoga County, New York. This tract of some 7,000 acres is situated in the well known Mohawk-Hudson sand plain. Approximately half the area is reforested principally with white, Norway and Scotch pines. The remaining part is covered with natural stands of native hard and soft woods.

The white pine is planted in pure and mixed stands together with considerable underplanting among the natural pine reproduction. The areas planted with alternating rows of other pines and those with borders of Norway or Scotch pine have not attained sufficient height to make any conclusions possible as to whether or not these measures will have a tendency to limit the spread of the weevil.

Since 1923 the following white pine has been planted:

1923	3 yr. transplants	41,000
1924	4 " "	57,000
1924	3 " "	1,250
1924	2 " seedlings	300,800
1925	3 " transplants	42,550
1925	2 " seedlings	175,000
1926	2 " "	500,000
1927	3 " transplants	526,700
1928	3 " "	515,000
1928	2 " seedlings	100,000
1929	4 " transplants	<u>140,000</u>
Total		2,399,300

During the season of 1929 sufficient weevil appeared that it seemed most advisable to start cutting out the injured tops starting the latter part of June, 1930. This work was accomplished by a crew of five men with a foreman. Short handled pruning shears were used, great care being taken that the infected tops were cut off below the point at which the grubs were working and just above the last whorl of uninfected lateral branches. The stub left on the tree was carefully inspected after the cutting was made as a check against possible boring not visible on the browned bark covering the energetic grubs.

The leaders after being cut off were carefully placed in fine meshed sacks and then dumped on a convenient fire which in 1930 took the entire attention of one of the crew.

Considering that one half of the white pines are mixed with other species or underplantings and that the plantations run 1,500 trees per acre, the area cruised by this crew was more than 2,000 acres at a total cost of \$499.00, 50 or 25 cents per acre. In going over the same areas in 1931 the cost was

\$280.00, a crew of three men and a foreman being used while a man was burning only a small part of each day. The cost for the present year being approximately 14 cents per acre, and since the wages were equal to the previous year and most of the same men were employed leads one to the just conclusion:-

That cutting out and burning the leaders of the white pine infected with Pissodes strobi Peck is a successful control measure as proven after checking over the original work of 1930. The amount of weevil in 1931 was less than 25% of that found in the previous year as unfortunately no check areas were used to obtain accurate data. Such check areas might not give exact results as the weevil varies in different sections apparently depending on the size of the trees, whether in mixed or pure stands, and also on the amount of shade.

Many other conclusions might be arrived at e.g. that there will be no necessity of cutting the top lateral branches of the weeviled pines to favor the larger lateral that it may become the leader by straightening. The writer believes at this time that such work will be unnecessary because there will be sufficient trees not attacked by the weevil to form a final stand in the forest while the weeviled trees will act as "fillers" and be removed when thinnings are made.

Conclusions must be carefully arrived at, and although we expect to remove the infected leaders each year, it may prove more feasible to dust the areas - possibly by airplane. In a final analysis, this is an experiment and savors of indefiniteness.

Tom Luther, Jr.

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PRISON LABOR USED IN REFORESTATION WORK IN WISCONSIN

The first contingent of prisoners from the State prison at Waupun has reached the forest camp in Oneida County where they will begin the reforestation program outlined by the State. The camp is located on a 10,000 acre State forest near Rhinelander where the first twelve men are being kept. By the middle of August the board of control expects to have 50 men at the camp, engaged in constructing fire lanes, clearing out slash and fighting forest fires. They will also plant trees in season. The president of the board of control has pointed out that use of prison labor in forestry work has never been extensively tried in any state and therefore the work is somewhat of an experiment. The prisoners will be kept busy winter and summer on State-owned lands and on other lands, such as that taken over by the counties.

The Conservation Commission will deliver 1,000,000 seedlings to the camp this autumn. Next year the Commission will furnish 3,500,000 trees and in 1933 a total of 5,500,000. By 1934 the camp may have its own nursery. One man from the Conservation Commission is directing the work while the guards are recruited from prison employees. A camp in Douglas County and one in Marinette County are being considered. However, before additional camps are constructed the board will weigh the value of the work being done in Oneida County.

July 31, 1931.

T. F. Kouba, Wisconsin.

A M O N G O U R S E L V E S

Mr. D. J. Stouffer resigned as State Leader in Michigan July 31 to attend the University of Idaho to study for his M. Sc. degree.

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We are glad to learn that Mr. L. B. Ritter of Minnesota recently passed the examination for Junior Forester.

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Mr. Geo. D. Ferrari, Agent in Michigan, resigned July 31 to accept a position as Junior Forester with the U. S. Forest Service.

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Mr. Roy G. Pierce and Mr. R. A. Sheals left August 3 to scout for the white pine blister rust in Ohio, Indiana, Illinois and Iowa.

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Mr. Charles Geiser has returned to the office from a two weeks' vacation in New York and New Jersey.

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Mrs. Helen Wright left August 8th for a three weeks' vacation in Iowa.

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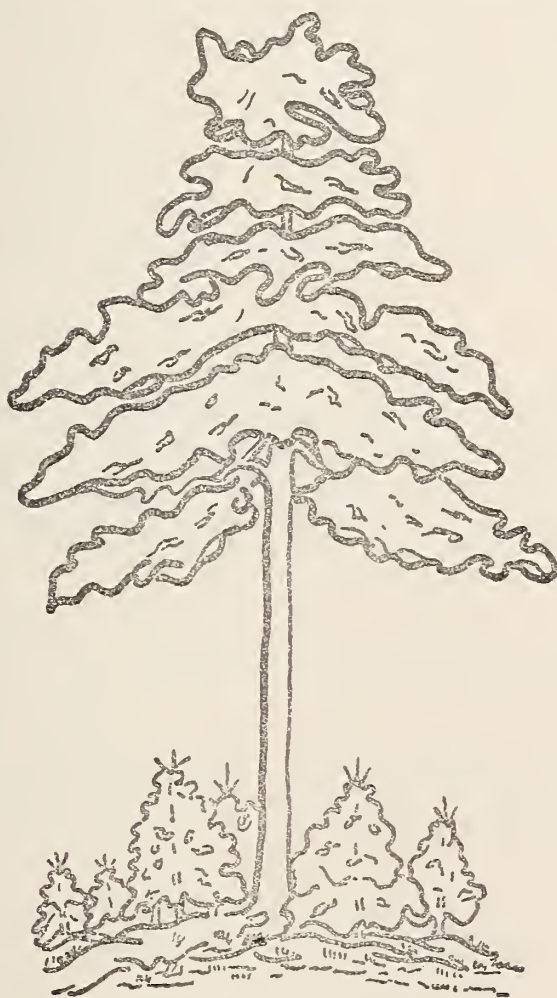
Mr. Clarence R. Quick has recently been appointed Junior Microanalyst in the Division of Blister Rust Control with headquarters at Berkeley, Calif.

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Mr. Roy Blomstrom was appointed Junior Forester August 1, with headquarters at Yreka, Calif.



THE BLISTER RUST NEWS



September, 1931.

Volume XV

Number 9

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
DIVISION of BLISTER RUST CONTROL



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

THE BLISTER RUST NEWS

Issued by the Division of Blister Rust Control
and Cooperating States

Vol. 15, No. 9.

September 1931.

BLISTER RUST IS SPREADING IN THE EAST

Virginia, West Virginia, Ohio and Iowa Added to Maryland.

Specimens of blister rust with either uredinia or telia, or both, have been found on Ribes in Maryland, Virginia, West Virginia and Ohio. Immature rust cankers on pine have also been found in Maryland and Iowa. These specimens have all the characteristics of Cronartium ribicola, and because of the establishment of the white pine blister rust in adjoining States, there is every reason to believe these findings are of this disease. However, it is customary to submit the first discovery of the rust in any State to the Division of Forest Pathology for confirmation through microscopic examination and measurements, and by inoculation wherever possible.

The Division of Forest Pathology has confined the identification of the pine specimens collected near Pen Mar, Maryland, and at Ames, Iowa, stating that one specimen from each locality showed "Peridermium strobilomycelium". Concerning the Ribes specimens that Division writes:

Specimen #49079 from Rappahannock County, Va. --- "measurements confirm your identification of this material as Cronartium ribicola".

#49093 from Monroe Center, Ohio -- "Few uredospores -- but these were typical of Cronartium ribicola."

Maryland

Additional blister rust specimens have been found in Maryland since the first infections found west of Hagerstown in Washington County by Messrs. Detwiler and Putman in July and reported in the July Blister Rust News. Mr. Hodgkins, together with Messrs. Avery and Geiser of the Washington Office, began their scouting in middle August, Mr. Avery staying on this work about a week. Two additional locations were found August 20 on wild gooseberries, R. rotundifolium, in Washington County in Cavetown Township on the Warner Gap Hollow Road, and Raven Rock Hollow Road respectively. Infections on wild gooseberry and white pine were found near High

Rock, Ringgold Township, about 1½ miles southwest of Pen Mar on August 19. These 3 infection centers are all on South Mountain.

In Allegany County, which joins Washington County on the west, 5 centers of infection were found on August 25 at Frostburg, 75 miles west of Pen Mar. Four of these infections were found only on the European black currant (Ribes nigrum) while one was on the cultivated red currant (R. sativum Rchbch.) and R. nigrum. Three and a half miles south of Frostburg a sixth infection was found near Carlos Jct. on a wild gooseberry, R. cynosbati, on August 26.

Virginia

The first rust discovered in Virginia was located by Messrs. Hodgkins and Geiser on September 9 near Star Tannery in Frederick County, the northernmost county in the State. The rust showing uredinia and telia, was found on a wild gooseberry bush (R. rotundifolium). The bush was growing under cultivation at one time. A second infection was found on R. rotundifolium in Thornton Gap, Rappahannock County, on September 12, 8 miles east of Luray.

West Virginia

Messrs. Hodgkins and Geiser discovered the blister rust for the first time in West Virginia on September 1, about 3 miles north of Thomas in Tucker County, on wild gooseberry, (R. rotundifolium). On September 2 an additional location was found in Randolph County 2-¾ miles south of Alpena on R. rotundifolium Michx. This was about 11 miles southeast of Elkins.

Ohio

Infections were found at 5 places in 3 counties in Ohio by Messrs. R. A. Sheals (of the Plant Quarantine and Control Administration) and R. G. Pierce. In Ashtabula County adjoining Pennsylvania on the west, infections were found August 5 at Williamsfield, abundantly on one bush of the pasture gooseberry (R. cynosbati), and sparsely on another; while at Monroe Center, infections were found on R. nigrum at 2 different places a mile or more apart. On August 28, Mr. Sheals located the rust on R. nigrum in Geauga County, a few miles east of Montville.

In the extreme northwestern corner of the State the blister rust was found in Fulton County 2 miles east of Fayette on Ribes cynosbati L.

Iowa

Several specimens of pine, Pinus strobus, showing discoloration were found in the Forest Nursery at Ames, Iowa, in August by Pierce. This early stage of the blister rust on pine was identified through a microscopic examination of a section of the bark.

Roy G. Pierce

CURRENTS IN SOUTHEASTERN MASSACHUSETTS

The results of our black currant work this season have shown an increased cooperation on the part of the public. The work of canvassing to determine the location of the Ribes was performed last winter, and on July 16 we started our final check-up and eradication work. This work centered principally in the towns of Milton and Quincy, with six scattering locations in Brockton, Holbrook, Weymouth, and Needham. After a strenuous 3 weeks our work was complete and 2,776 black currants had been destroyed.

The tabulation of the field records shows a gratifying increase in cooperation on the part of the public. Last year cooperation was received from 58% of the owners, whereas the records for this season show that 72.2% of the owners removed their own plants. These cooperating owners were in possession of 69.2% of all the bushes destroyed. This in itself is at least a slight recompense for some of the abuse that the field men have to accept from a small but invariably present minority of owners.

Aug. 31, 1931.

E. M. Brockway, Mass.

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ESTATE OWNER APPRECIATES HODGKINS' ASSISTANCE

Mr. S. B. Detwiler,
Bureau of Plant Industry.
Washington, D. C.

Dear Mr. Detwiler:

I want to thank you for sending Mr. Hodgkins to eradicate blister rust from the pine trees on my place at Lake George. Mr. Hodgkins has impressed all of us here, who have had the privilege of meeting him, for his intense devotion to his work, his expert knowledge, wide experience, and charming personality. While nothing that I can say can add anything to this prestige, I cannot refrain from expressing my grateful appreciation of the work your Department has done for myself and this community.

Charles S. Shepard, N.Y.

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MISSOURI GOOSEBERRY WITH SMALL SPINES

One of the characteristics of the Missouri Gooseberry (Ribes missouriense) is its stout, red, nodal spines, and the whitish bark of new growth. The spines, according to Coville and Britton, are 2 cm. long or less and reddish brown. My experience has been that they are usually 1/2 inch long or longer.

At Cedar Rapids, Iowa, in Ellis Park, one bush of this species was found showing characteristic whitish branches, leaves glabrous above, pubescent beneath, but with single nodal thorns only 3/16 to 5/16 inch long, averaging but 1/4 inch. The newer stems were devoid of prickles, though on many other bushes found in Iowa and Illinois the new branches had sparse prickles.

R. G. Pierce.

THE MICHIGAN METHOD OF ERADICATING CULTIVATED BLACK CURRANTS

In Michigan an eradication campaign against the cultivated black currant is in progress in all of the white pine counties in the State. The regions in which this work has been, or will be done include all of the Upper Peninsula and the northern half of the Lower Peninsula. This campaign is a very effective measure in delaying the spread of blister rust.

Agent Thompson, in charge of blister rust control in the Lower Peninsula, has developed a very effective and valuable method of handling this type of work. He and his assistant work by township units. He has a township map on which he designates all farms visited and all those on which he found and removed cultivated black currants, and on which he shows the location of all white pine areas. He examines for blister rust all bushes pulled, and takes note of all commercial plantings of other currants and gooseberries. The owners of all pine stands worthy of blister rust protection are interviewed, thus combining with the cultivated black currant campaign a campaign leading to future cooperative control, killing at least three birds with one stone.

Thompson has an effective statement with which he persuades owners to part with their cultivated black currants. Under the Michigan blister rust control law, all *Ribes* bushes found infected must be destroyed. In Oceana County, where the agent has been working, there are many commercial plantings of currants and gooseberries. Up to the middle of August of this year, two infected black currant locations had been found. Near one of these infected black currant locations there was found a pine canker apparently of 1927 origin. Mr. Thompson tells the owners of cultivated black currants that if such bushes are not destroyed they will, in all probability, become infected and endanger not only the pines but also the commercial plantings of other cultivated *Ribes*, necessitating their removal. This very potent and strong line of reasoning has resulted in the removal, without compensation, of all plantings of *Ribes nigrum* found by Mr. Thompson. He has been able by these means to obtain the destruction of several plantings, each containing over one hundred bushes.

This general method of carrying on a cultivated black currant campaign is strongly recommended for the consideration of blister rust control workers in the Lake States because of its effectiveness and economy. By going over the ground once, several things are accomplished:

1. Cultivated black currants are found and destroyed, a measure very effective in delaying the spread of the rust.
2. A knowledge of the spread of blister rust is obtained.
3. Stands of white pine are located and their approximate acreages are determined.

4. Owners of white pine stands are interviewed and their cooperation in protecting their stands against blister rust is urged.

Agent Thompson is to be congratulated upon his handling of a difficult job so effectively and thoroughly.

H. N. Putman, Wis.

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BLISTER RUST FOUND ON WHITE PINE IN WESTERN MICHIGAN

Blister rust was found on white pine in western Michigan for the first time on August 13. Mr. Henry Putman on his way to his new headquarters in Milwaukee, Wisconsin, spent a profitable half day with the black-currant eradication crew in Oceana County, Michigan. He visited a location of cultivated black currants just north of Shelby where infection was found by Federal agents in 1927. A close examination disclosed infection on several bushes. A white pine plantation just south of the black currants was also examined and here "Hanks" eagle eye came into play, disclosing a 1925 canker. This was 3 miles below Hart.

This discovery of the rust on pine has put us all on our toes.
Aug. 18. 1931. R. I. Thompson, Mich.

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BLISTER RUST FOUND ON THE CHIPPEWA NATIONAL FOREST

Blister Rust Agent Stewart found two blister rust infections in the Chippewa National Forest, Minnesota, in August on the pasture or prickly-berried gooseberry, Ribes cynosbati. One infection was found in S. 17, T. 145 N., R. 30 W., and the other in S. 11, T. 147 N., R. 28 W. These are the first reports of blister rust infection on the Forest.

L. B. Ritter, Minn.

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PUBLIC SERVICE PATENT GRANTED OFFORD AND MIROV

Messrs. H. R. Offord and Nicholas T. Mirov of the Berkeley Office were granted a patent covering a process for fireproofing and waterproofing textiles on Sept. 1, 1931. The patent number is 1821317. The process for fireproofing and waterproofing textiles was developed to protect the men engaged in spraying sodium chlorate and similar combustible spray materials. Messrs. Offord and Mirov are to be congratulated on securing this patent.

R.G.P.

A NOTE ON BLISTER RUST IN ONTARIO, CANADA

Mr. David J. Stouffer, formerly State Leader in Michigan, under date of August 20, writes that while visiting his uncle, David L. Stouffer of Ringwood, Ontario, they visited the Vivian Forests located in Whitchurch township, York County. He continues: "The caretaker, Mr. Fred Holledge, spent considerable time with us talking over the different plantings and problem he has concerning them. In the course of events, the conversation naturally turned to white pine blister rust and I was able to tell Mr. Holledge of several experiences I had here in Michigan. After I had described the disease, Mr. Holledge said he felt sure some blister rust was present in the pine plantings on the forest. Inspection of the plantings proved this to be true. Several cankers were cut from the young pines and others were left. The cankers originated in 1926 or 1927 I believe. Upon my return to my uncle's farm some six miles south of the Forest, we examined his cultivated black currant bushes and found them to carry the heaviest infection I have ever seen on any currants during my four years with Blister Rust Control. It is hardly possible to place the tip of a finger on a single leaf of the black currants without touching several telial columns."

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A CONTROL SCHEDULE FOR A 10-YEAR PERIOD
FOR A FOREST SERVICE RANGER DISTRICT

In the Shenandoah National Forest in Virginia, Ribes surveys and Ribes eradication have been carried on by the writer in cooperation with the Forest Service for the past 4 years. In order to show in abbreviated form what work has been accomplished and the work which needs to be done in the future, a tentative schedule was made for each of the ranger districts which had white pine in quantity. This schedule was made up for the first time this spring and was included in the report to the Forest Service.

It is believed that there is merit in thus tabulating the results of the surveys and eradication work. A schedule such as this would seem feasible for other National Forests, State and town forests, and for holdings of lumber companies, municipalities and individuals, where the lands are divided up into numerous tracts or lots. Comments on the following table will be appreciated. It is possible that some of the agents have hit upon a better plan to show in graphic form similar data. The editor would appreciate receiving any such schedules.

R. G. Pierce.

SHENANDOAH NATIONAL FOREST, DRY RIVER RANGER DISTRICT

A tentative schedule showing the minor watersheds and areas which have had a preliminary survey for Ribes, the dates suggested for surveying or working and the dates worked, with the number of Ribes removed

Minor Watersheds	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
<u>North River</u>										
Above Staunton Reservoir	PR	WC(1362)	S(5)		S					
Below Staunton Reservoir	PRW(8)	WC(59)			S					
Puffenberger Fields			PRW(9)		W or W					
<u>Little River</u>										
Blocks 1.2 below mile post 5	PRW(54)	WC(79)			S					
Block 3 above mile post 5 to forks	PRW(18)	SW(29)		WC(2521)			S		S	
Stony Run	P								S	
Coal Run	PRC(1)									
Lory Coal Mine Run and Western edge of Narrowback Mt.	P								S	
Big Run	PR(7)	WC(22)			S					
South Fork of Little River	PRW(5)			WC(695)			S			
North Fork of Little River	PRW(4)			WC(950)			S			
Michael Hollow				WC(6)						
Hog Run	PRC(1)			WC(3)						

(Part of Table Omitted)

SYMBOLS

- P - Preliminary survey made, no Ribes found.
 PR - " " Ribes found
 PRC - " " " and completely removed.
 PRW - " " " work needed.
 W - Eradication work needed
 WC - Work completed
 S - Survey for Ribes
 SC - " completed, no Ribes
 SRW - " made, Ribes present, needing work.
 (8) Number of Ribes removed.

ERADICATION WORK IN THE PIONEER TRAIL PARK IN UPPER MICHIGAN

Last month I wrote about the control work on the Ford Motor Company lands in Marquette County where the men were paid a relatively high wage. You will recall that the crew consisted of five iron miners, each getting \$7.00 per eight-hour day, that 700 acres of pine were protected and 1,240 acres cleared of Ribes at a cost of \$196.60 to the owner, or about 16 cents per acre, and that 42,890 bushes were pulled, most of them being R. glandulosum. The bushes eradicated per acre averaged 34, and the cost per bush destroyed was 46/100 of a cent.

In contrast to the above I will tell you about a cooperative control project just completed where the men were paid a relatively low wage per hour. This project protected the beautiful white pines in Pioneer Trail Park, Delta County's finest park. The work was performed by our foreman Joe Kowatch, with a five-man crew employed by the Delta County Road Commission. These men ordinarily work on roads, and received 35 cents per hour. The project was begun July 7, 1931 and completed August 15. 100 acres of pine were protected and 350 acres cleared of Ribes at a cost of \$568.75 to the County, or about \$1.63 per acre worked and \$5.68 per acre of pine protected. 178,764 bushes were pulled, most of them Ribes americanum, a great many of them being six feet tall. Other species removed were R. glandulosum, R. triste, R. cynosbati and R. hirtellum with an occasional lacustre. The bushes on this tract averaged 510.7 per acre. While the cost of \$1.63 per acre may seem relatively high, yet when the number of bushes pulled is taken into consideration it will be seen that the second job was done at a lower rate per bush than the first. The cost per bush in the Pioneer Trail Park amounted to 32/100 of a cent, which was 30% cheaper than the cost of 46/100 of a cent per bush on the Ford Motor Company lands. Another comparison of the 2 plots may be had by contrasting the total number of bushes pulled in each area with the cost per acre worked. While there were 15 times as many bushes per acre destroyed in the Pioneer Trail Park as on the Ford Motor Company lands, the cost per acre worked was but 10 times as much.

August 28, 1931.

John K. Kroeber

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BLISTER RUST DEMONSTRATIONS AT MINNESOTA FAIRS

Mr. L. B. Ritter under date of August 12 writes:

I am leaving today for Pine City where I will put on a blister rust exhibit at the county fair. I have 3 or 4 more fairs at which we will have blister rust demonstrations this month. In other words, we have been stressing educational work at fairs this year.

STOUFFER WRITES OF IDAHO BLISTER RUST CONDITIONS

Yesterday in company with Dr. E. E. Hubert I visited the Ruby Creek infection area some forty miles from here. Several differences appeared to distinguish this infection from a typical Michigan or Eastern infection. Perhaps this is not true, but only my impression. However, I'll tell you how it struck me as being different. The cankers were in the spindle-shaped-swelling stage and had not fruited in the majority of cases. However, several "flags" were quite noticeable on the more heavily infected trees. This led me to believe that the disease traveled more rapidly and killed more rapidly than at home. The important infecting species of *Ribes* was *R. petiolare*. This put me much in mind, as Putnam and Posey have often remarked, of our *R. hudsonianum*. The amount of infection on this species was much heavier than any I had ever seen on *R. hudsonianum*. Its location along the stream near the white pine and under excellent moisture conditions makes it dangerous indeed. I am led to believe that perhaps our *R. hudsonianum* can carry almost as heavy a load of telia as the cultivated black, if *R. petiolare* is any indicator. We surely found leaves yesterday that were peppered to the "nth" degree.

Yesterday was a fine day for the spores to spread over to the pines, too. We were having the wettest spell since last June so I was told. The telial stage was well along and no doubt germination, spread and infection were all in progress while we were in the infection area. A light sprinkle of rain fell generally throughout the forenoon.

D. J. Stouffer

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PINE OWNERS IN VERMONT FIGHT BLISTER RUST

Sixty pine owners in Bennington and Rutland Counties, Vermont, have cooperated with the Vermont Forest Service and the Federal Government in protecting their pine stands from the blister rust during the eradication season from May 15 to September 10. The Rutland, Vermont, paper of September 8 has an interesting item concerning this cooperation. It states that:

"A sketch map was prepared of each lot showing in detail the pine area, extent of eradication work, and streams, fences, ledges, swamps, roads and the type of land surrounding the pine stand. Currants and gooseberries are found on certain types of land and these concentrations were shown on the maps to aid in the future care of the lots. The outside boundaries of the area worked over are marked by paint spots on trees and rocks and correspond to the bounds of the sketch maps and the town and district forestry project maps. A system of record cards gives details of the work which make possible a summary at any time of the status of the work in the district.

The above information was furnished by Mr. W. E. Bradder.

AUGUST IN MASSACHUSETTS

The Weather

Weather conditions during the month were very close to the normal for August, with only a slight excess of heat, the expected humidity for which the month is famous, and only a slight excess (0.8") of rainfall.

Infection Conditions

Infection on Ribes became more and more intense during the month and many of the R. nigrum bushes found were partially defoliated from this cause. On August 1, reports came in to the effect that many plants of skunk currants were completely defoliated, again the result of intensive infection. This is an early date for Massachusetts conditions.

Control Activities

During the month, field activities have been centered primarily on the black currant project, but with some regular control work. Agent Clave, with Agent Doore cooperating, resumed his experimental work involving the use of chemical Ribicides and sprayed numerous small plots of R. glandulosum in Worcester County, and R. americanum in Berkshire County. The Ribicides used included sodium chlorate, Atlacide, calcium chlorate, ammonium thiocyanate, and diesel oil. This season Agent Clave is making a special effort to obtain comparative cost figures between hand pulling of skunk currants and chemical eradication, in addition to the usual tabulation of data regarding effectiveness of control.

Summary of Control Work

Tentative data summarizing the field work for August are as follows:

Regular Control Work

No. of cooperating owners	160
No. of acres examined for Ribes	30,110
No. of wild Ribes destroyed	17,674
No. of cult. Ribes destroyed	2,092

Special Control Work (black currant project)

No. of towns where work was in progress	45
No. of black currants destroyed	2,380

Plans for September call for a strenuous final drive to complete our working plan requirements for the 1931 Ribes eradication field season. With favorable weather and continuance of sufficient funds in our appropriation, we hope to be successful in this endeavor on September 30.

September, 1, 1931.

C. C. Perry, Mass.

BOY SCOUTS TAKE A HAND IN PROTECTING MICHIGAN'S WHITE PINE

The second largest Boy Scout Camp in the United States, approximately 1,100 acres, is located in Blue Lake Township, Muskegon County, Michigan. Owasippe scouts are making this area safe for the future growth of white pine while protecting its several hundred acres of second growth.

Two sites have been scouted and mapped by Burgtorf. This represents about 720 acres containing most of the white pine several lakes and camps, and more than 50% of the total acreage. The greater portion of this land has been protected by the boys. A 20-acre swamp considered too hard and hazardous for the scouts was left for crew work.

Education and protective control work was the rule of the day. Scouts were used to remove the wild Ribes. The scout's time consumed was credited as project work in order to qualify for merit badge in Conservation.

Fine cooperation was obtained from the camp executives and directors and we hope more work will be carried on next year.

Work was also carried on in the Grand Rapids Boy Scout Camp. Education was stressed most, for a preeradication survey showed that the area of about 200 acres was Ribes-free. Some demonstrations of pulling were given the boys on areas out of the 900 ft. zone and identification made of the Ribes growing in the locality. I might say also that the Grand Rapids camp has established a small nursery, the scouts doing all the work. They are raising several thousand pine which they intend to plant later through the camp. Good work.

The Evanston Boy Scout Camp produced the most Ribes. The entire area of the camp, 320 acres, was covered by the scouts. The use of the boys was fairly productive of good results. It is hard to do intensive work with the scouts but all large bushes were pulled, leaving a few scattered small ones. If work is carried on next year this area should be practically Ribes-free.

In all, about six camps for boys were visited in our educational work. Lectures were given to about 500 scouts and others. Exhibits were made of blister rust on pine and also on black currant plants. Many bulletins were distributed to the camp leaders to be given to the boys. A chart was displayed in a prominent place.

At Owasippe Camp an interview was had with the several camp naturalists. The work was discussed and various details worked out in order to carry on the field work with the scouts.

In all, about 120 scouts took part in the work and they pulled approximately 6,000 bushes, mostly cynosbati. This is a small number of boys but it represents only those working on conservation projects. This will increase as more boys take interest in forestry.

R. I. Thompson, Mich.

CONTROL WORK COMPLETED IN TWENTY TOWNS IN
NORTHWESTERN MASSACHUSETTS

During the month of August five field men working in Franklin and Berkshire Counties have put the finishing touches to our initial pine protection program in twenty towns. Every pine lot has received its initial protection and a few have been reexamined at the urgent request of the owner. All cultivated Ribes including Ribes nigrum have been destroyed; the Ribes nigrum wherever found and the other species when found within the protection zones. The towns covered are as follows: Ashfield, Conway, Deerfield, Erving, Gill, Leverett, Montague, New Salem, Orange, Shutesbury, Sunderland and Wendell in Franklin County; and in Berkshire County, Adams, Hancock, Hinsdale, New Ashford, Peru, Pittsfield, Washington, and Windsor.

Two hundred and twenty-eight patches of cultivated Ribes of various species were located. These represent 1,185 bushes, all of which have been destroyed with the exception of four, the owner of the latter having applied for compensation.

For the past eight years we have destroyed cultivated Ribes wherever found in the vicinity of pine and during this time we have made every possible effort to make the owner of such bushes see our point of view and cooperate with us. At times we have failed but during this period of years, in this district only five persons (owning a total of 50 bushes) have made claims for compensation.

Aug. 31, 1931.

G. Stanley Doore, Mass.

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MINNESOTA PINE OWNER SELLS SMALL LOGS FOR TOURIST CABIN

A white pine wood lot is an asset in hard times, says Mr. Fred Larson who owns 30 acres of white pine in Stanchfield Township, Isanti County, Minnesota.

Mr. Larson realized \$85.00 from the sale of 100 cabin logs to a filling station owner. The trees cut were the smallest in Mr. Larson's pine lot and constituted a heavy thinning. Mr. Larson's pine is the finest group of white pine on Highway #5, north of the Twin Cities.

No cutting was done in the edge of the lot facing the road, as Mr. Larson fully realizes the beauty of his pine stand.

Yes! Mr. Larson's pine and that of his neighbors is protected from blister rust.

L. B. Ritter, Minn.

MANY VISITORS INSPECT THE RALPH INFECTION AREA

That it pays to have a heavy infection for a demonstration area is attested by the number of visitors at Ralph, Michigan, this summer. Among others were professors and students from the University of Michigan, professors from Michigan State College, all from the Forestry or Botany Departments of the two schools, visitors from Washington, Lansing, and New York, and "Hank" Putnam formerly from the West. The Ralph area is bigger and better than ever, and is still the "King Pin" of them all.

J. K. Kroeber, Mich.

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NOTES ON COOPERATIVE CONTROL WORK IN THE UPPER PENINSULA OF MICHIGAN

We've had 3 foremen on cooperative control work with crews all summer and a two-man crew on black currant eradication in the Upper Peninsula. These men are temporary agents and will leave us around September 15.

The depression affected our control work this season in two opposite ways: (1) Large and small pine owners hung onto their nickles and claimed that they couldn't afford to hire extra help this year - even large iron and power companies; and (2) Cities, towns, and counties, who were glad to cooperate and give their unemployed a chance to work for the money they received, instead of having it handed to them as a sort of a dole.

J. K. Kroeber, Mich.

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HIGH-PRICED RIBES NIGRUM

In connection with our black currant location and eradication program this season, our attention has been directed to two of the highest priced black currants "in captivity". These two bushes were destroyed by Agent Brockway on July 24. On July 30, a claim was received from the legal representatives of the owner demanding the sum of \$150 in reimbursement for these unusual bushes. The plants were described as having crowns measuring 37 feet in circumference. These particular bushes were planted by the owner upon the advice of her family physician who claimed that the fruit juice was the only available remedy for the alleviation of a serious stomach ailment. I expect that it will be difficult to satisfy the owner with the usual offer of settlement in the amount of 50¢ per bush.

Aug. 24, 1931.

C. C. Perry, Mass.

THE KELM MOUNTAIN BLISTER-RUST INFESTATION

The Kelm Mountain lot is an outstanding example of blister-rust damage. Because of its inaccessibility, this plot is probably the least known to pathologists and foresters of all blister-rust plots; few have seen it and not many more have heard of it.

This area was discovered by A. E. Fivaz and E. G. Woodward of the Division of Blister Rust Control. Inability to find a single uninfected tree in the course of two casual inspections made the area of unusual interest from the point of view of blister-rust damage, and the writer established an experiment plot there in 1923. The plot is at the foot of Kelm Mountain between the Chestertown and Horicon roads out of Warrensburg, in Warren County, New York. It can be reached only after a walk, mostly uphill, of about a mile and a half from either highway. The elevation of the lot is 1,200 feet. The infested area is in a sort of pocket in the mountains protected on one side by the steep wall of Kelm Mountain and near a small unnamed pond, not far from Kelm Pond. The lot is surrounded by mature pine and hardwood. In general, moisture conditions favorable for the propagation and development of fungous diseases seem to prevail. During the summer the undergrowth usually remains wet until nearly noon, fog is very common in the nights and early morning, the woods are dark, and the forest floor supports an unusually abundant mushroom growth.

The permanent plot consists of 2 acres, selected from an extended stand of white pine of uniform type. This plot, in its original condition, had 550 trees to the acre, divided quite sharply into 2 groups - one of open growth of 400 pines an acre and the other of about 3,000 trees an acre.***.

In 1923 there were 174 bushes of Ribes rotundifolium Michx., with a total leaf-bearing stem of nearly 9,000 feet in the open part of the plot. No bushes were found in the dense part of the plot nor in the surrounding mature-pine and hardwood growth. In 1923, 25 per cent of the leaf-bearing stems were dead and 50 per cent were dead in 1926. At the present time, the few surviving bushes are in very poor condition. They are, however, numerous enough to provide infective material for the new pine seedlings as they appear. ****.

In all, during the past 8 summers, 1,110 trees have been found on this plot. Of these, 96.5 per cent have been found infected at one time or another. There are at present only 1,006, or 90.6 per cent, with living cankers. The cankers on 64 trees (6 per cent) are now dead because of shading. About 9,000 cankers, in all, have been found on the plot, an average of about 9 per tree. ****.

There was not a dead tree in the lot in 1920. In 1923, 9 per cent were dead; in 1924, 14 per cent; in 1926, 30 per cent; in 1927, 42 per cent; in 1929, 60 per cent; and in 1930, 69 per cent. There are still left on the plot 18 per cent of the entire number that will die in a few years, making an imminent mortality of 87 per cent of the entire stand.

There will be left on the lot 147 noninfected trees. Of these however, 40 will not survive because of shading or other factors. ****. There is at the present time no reproduction to make a new stand, nor have any seedlings matured since 1910. ****.

The original stand of 2 acres, one portion of pure pine and the other mixed with hardwoods, was such that, undisturbed by disease, it probably would have produced a minimum of 60,000 and probably nearer 70,000 board feet of high quality lumber. ****.

(Extract from article by Walter H. Snell entitled "The Kelm Mountain Blister-Rust Infestation". In Phytopathology, Vol. 21, No. 9, September 1931.)

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ENCOURAGING PINE OWNERS TO INSPECT ERADICATION WORK

In a letter of August 18th to Dr. Martin, Mr. L. E. Newman writes:

"I am glad to learn that our blister rust calendars seemed to strike you and others so favorably. We felt this form of publicity might be instrumental in getting quite a few people out to view our field work in the many cooperating towns. However, the reaction has been extremely disappointing and I have begun to feel that the only way we will get people to view eradication work is for the agents to make a date and take them out himself. I do feel, however, that many people are going to keep these calendars for a number of months and although we cannot trace any benefit directly to them, they are bound, in many cases, to do some good.

I note from talking over such matters with the district blister rust agents that in a good many of their towns, when they attempt to get the Selectmen and other town officials or the pine owners into the field, that such men reply by saying that in the first place they have not the time to devote to these inspections and secondly that they are satisfied that the work is probably going on all right. I really feel, however, that it is through individual inspection prompted by a request from the blister rust control agent, that the people will inspect the field work rather than through a group invitation.

I should be glad to see in the columns of the Blister Rust News more discussions on this subject, both by State Leaders and by the many blister rust agents."

Edit:- It has been suggested that in case of failure to secure results from certain types of publicity that several persons be interviewed to learn why they did not respond to the invitation sent them. The results of such interviews should be of value in formulating plans for future demonstrations.

EUROPEAN BLACK CURRANT ERADICATION PROJECT CONSTANTLY
INCREASING PROTECTION TO RHODE ISLAND PINE

Over 2,300 European black currant bushes found in 264 plantings have been destroyed in seven townships so far this year. Approximately 12,000 properties have been scouted to date in locating these bushes. This is the third year during which a three-man crew of the State Department of Agriculture has scouted to locate and destroy the European black currant. Since this work started in the State as a separate project, approximately 12,000 European black currant bushes have been found and destroyed. These bushes have been found in a total of about 1,127 plantings. In addition, many European black currants have been destroyed each year since 1917 during general Ribes eradication. Towns and cities in which scouting has been completed this year are East Providence, Little Compton, Portsmouth, Tiverton and Woonsocket. To date all of Rhode Island has been scouted for European black currants except the Islands of Narragansett Bay, Pawtucket, Central Falls, part of Cranston, and the metropolitan area of Providence, including adjacent towns.

In addition to the black currant eradication project, the State has inspected many woodland areas, reforested with white pine brought in from out of State, to insure that these plantings are given adequate protection from blister rust.

Good Cooperation

Quite often individuals are interviewed who have already destroyed their European black currant bushes before the arrival of the State scouts. Recently, while working in Woonsocket, the scouts were informed by one person that he had destroyed 28 large, black currant bushes after hearing about the work in adjacent Massachusetts as well as in Rhode Island.

Window Envelopes

The window envelopes sent out by the Washington Office for the showing of Ribes leaves infected with blister rust have been used to advantage in Rhode Island. Several comments have been made as to the effectiveness of such a display. The State scouts in finding diseased black currant leavers have often shown or have given out the envelopes with infected leaves to individuals concerned. Owners of black currant bushes are generally very ready to cooperate once they are shown the rust.

Roadside Demonstrations

Signs for 3 blister rust roadside demonstrations were recently prepared by the Washington Office and sent to Rhode Island for local use. Mr. Fivaz has been kind enough to send the needed cankered sections of pine trunks to be used in the demonstrations. The woodwork of the 3 roadside

demonstration sets is now being constructed and plans are being made to set up these demonstrations within a week. They will be used to good advantage at our local fairs and later at various roadside points about the State. This will be the first time such a roadside demonstration has been used here locally, and its effectiveness will be closely observed.

Aug. 31, 1931.

A. W. Hurford, R. I.

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CITRUS CANCKER ERADICATION

One of the finest examples of disease control in this country is that of the citrus canker (a bacterial disease) in Florida.

The eradication of the citrus canker through the destruction of diseased trees began in May 1914 and has continued every year without intermission. The following figures will show the number of citrus grove trees infected with the canker since the beginning of eradication.

1914 - - - - -	4,327	1922 - - - - -	873
1915 - - - - -	6,715	1923 - - - - -	11
1916 - - - - -	2,294	1924 - - - - -	0
1917 - - - - -	372	1925 - - - - -	5
1918 - - - - -	15	1926 - - - - -	2
1919 - - - - -	4	1927 - - - - -	85
1920 - - - - -	540	1928 - - - - -	0
1921 - - - - -	0	1929 - - - - -	-
		1930* - - - - -	0

*Records for first six months only available.

It will be seen that in 4 different years no infected trees were found in citrus groves. However, it will also show that it is unwise to stop inspecting for the disease or stop trying to control it, even though there seems to be no disease present in the State. A heavy infestation in 1922 followed a zero year in 1921 while following the zero year of 1924 there were 3 years in which the citrus canker was found. "Eternal vigilance is the price of safety".

R. G. P.

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NEW BULLETIN AVAILABLE

Technical Bulletin No. 261 "Longevity and Germination of Seeds of Ribes, Particularly R. rotundifolium, Under Laboratory and Natural Conditions", by A. E. Fivaz, has recently been published, and copies are available for those who have not yet received a copy.

PLANT MORE WHITE PINE SHADE TREES

Marshal Foch had a passion for trees. Said he "I should like to leave after my death, things that are solid and enduring". His biographer recounts that on his estate in Brittany, after his retirement, he planted trees "so that in the last lap of life he might leave seed in the soil."

On a recent field trip by auto through portions of northern Indiana and southern Michigan, a tally was made to determine the degree of popularity of northern white pine as an ornamental tree. Observations were limited to properties immediately adjacent to the roads traveled, thus permitting fairly satisfactory determination of the kinds of trees growing on the premises. Effort was made to include every house on the route of travel except in towns. Villages were included, except the business blocks. The same sort of a study was made from a railroad car in western New York but this was found to be less satisfactory than observation from an auto.

The record covers approximately 170 miles of travel. In this distance, records were taken on 838 properties, all but one of which had trees of some sort on the grounds surrounding the house. In a few cases (not exceeding 2 per cent of the total) there were only fruit trees in the yard. Deciduous broad-leaf shade trees were the only ones to be found on approximately 75 per cent of the grounds. The remaining 25 per cent had coniferous evergreens present, the species in order of predominance being red cedar, Norway spruce, white, Scotch and Austrian pines. Northern white pine occurred at 21% of the places having evergreens (or 5% of the entire number of places). Of the 43 places having white pine, 63% had no other evergreens present. The following tabulation gives the details:

	Places		% Places		% Places	
	Total	Places With Evergreens	With White Pine	% Places with Evergreens	Having Evergreens with White Pine	
	<u>Places</u>	<u>Evergreens</u>	<u>Pine</u>	<u>Evergreens</u>	<u>White Pine</u>	
Lebanon to Logansport, Ind. (about 50 miles)	449	119	26	27	22	
Shepardsville to Clare, Mich. (about 60 miles)	205	30	11	15	37	
Lehigh to Manchester, N. Y. (about 60 miles)	<u>184</u>	<u>57</u>	<u>6</u>	<u>31</u>	<u>11</u>	
Total	838	206	43	25	21	

The proportion of prosperous looking, well-kept farms was noticeably greater in the class where evergreens were present than in the class having only broad-leaf trees. In general, the evergreens were healthy and of good form and appearance. Most of the Norway spruce and the pines had been planted 50 to 60 years ago and in exposed locations the spruce and Scotch pines

showed some deterioration in vigor. Very few young evergreens were noted. This suggests that nursery salesmen a half century ago conducted a systematic campaign to sell evergreens for ornamental planting, but that in recent years the sale of shade trees has been neglected. It also suggests that State forestry associations could enlist greater interest in trees, and at the same time give valuable help in beautifying our landscapes, by encouraging competent young men to sell desirable ornamental trees at reasonable prices.

The study furnished convincing visual evidence that the rank and file of our people love trees. It also impressed one with the value of evergreens in adding to the beauty and value of a property. No doubt, also, the evergreens have a high protective value against the sharp winds of winter in the regions where this study was made. The writer admittedly is biased in favor of white pine, and so has no moral right to claim good judgement as regards its beauty. Nevertheless, of all the species observed in this study, both evergreen and broad-leaf, white pine appeared to be by far the most beautiful and distinctive. Be this as it may, certainly those who plant trees "leave seed in the soil" and raise monuments to their memory that are solid and enduring.

September 4, 1931.

S. B. Detwiler

Edit: The Editor has noted that Norway spruce where used as an ornamental tree, both in town and country, has suffered severely from the drought of 1929-30. This is particularly true in the Shenandoah Valley in Virginia. White pine seemed to be more resistant to drought damage than the Norway spruce. This was particularly noticeable on a trip this August through the northern parts of Ohio, Indiana, Illinois and Iowa, where in numerous places old Norway spruce showed signs of dying in the tops.

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FOREST SERVICE NURSERY TO BE ESTABLISHED IN NORTHERN WISCONSIN

"The Federal Forest Service may soon establish a Nursery in Bayfield County, Wis., to produce pine seedlings by the thousands for planting in the Moquah National Forest and other Wisconsin and Minnesota units. Requirements of a Nursery site as outlined by federal forest officials are briefly as follows: from 20 to 40 acres in size; proximity to a railroad line, high power line and adequate labor supply; proper type of sandy loam soil; and adequate water supply."

Extract from American Nurserymen for August 15, 1931, page 77.

Edit: One requisite of note seems to have been omitted, particularly if white pine are to be grown; that is, that the area be not adjacent to swamps where Ribes are so abundant that they either can not be eradicated or that it will be very expensive to remove them.

RESEARCHER'S ENGLISH

The muse must be cultivated even by scientists. Possibly scientists will yet write poetry, not for the sake of the poetry but for the sake of expressing the idea. For young scientists lack English, says Dr. W. W. Stockberger, Director of Personnel and Business Administration of the Department of Agriculture, as reported in a recent issue of "The Official Record". He points out that a glaring defect in the education of many applicants for professional positions in the government service is an inability to express themselves freely and clearly.

"If a modicum of the time now devoted to the training of students to undertake research work were devoted to training in the art of presenting in suitable form the results of investigations, a marked improvement in the clearness in the writings of students so trained would become evident", according to Dr. Stockberger.

The urgent necessity for the presentation of the results of scientific work in simple and clear language is undoubtedly just as important as undertaking the scientific work itself. Especially is a good presentation necessary if the result of such work is ever to have any influence for the social good.

But between the need and remedy there is a long gap, for everybody with any experience in writing up the results of research work, or for that matter writing up ideas of any sort, for presentation to a reader public knows the difficulty of presentation. Often is it relatively easy to do the work, but presenting the picture resulting from the investigation is quite a different matter. "A modicum" of time spent on English during the period of training might be helpful; certainly a good service will be rendered if leaders in fields of administration point out and emphasize the need for such training in English.

But after all, is it entirely a matter of training in English? Is there not an equal need for cultivating a broad viewpoint? Is not the zeal for specialization in narrow fields of work and the limitation of knowledge to that field partly to blame? Exact knowledge of the narrow field is only of any real value to society when seen against the broad background of human relationships and activity. And probably the present difficulty is to be attributed just as much to a lack of knowledge or even a lack of interest in this broad background, as to a lack of the knowledge of how to use the English language.

Then again, is not our modern tendency to worship unrelated facts partly to blame? Knowledge is not facts alone. Yet only too often are mere facts presented without any relation to a "presiding idea" which the reader can take away. Thus, a marked improvement in scientific writings probably depends not only on a better training in English, but in the cultivation of a broader and more sympathetic viewpoint.

(Extract from "Better Crops With Plant Food", August 1931.)

Edit:-The preceding editorial hits some of us in our blister rust control work. Not only do some of the news items sent in to the Washington Office lack good English but many of the letters written from the field show the same lack. A good grammar and dictionary would seem to be indispensable to those who have not had a broad training before entering government work. The frequent expression of ideas in writing, properly criticized, should in time give us the ability to write well.

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PROTECTING WHITE PINE FROM BLISTER RUST

The Providence (R.I.) Journal of Labor Day, September 7, published a well written article on "Protecting the White Pine from Blister Rust". It recounted the campaign against the black currants and called particular attention to the necessity of adequate control measures if white pine was to succeed in the State. The article continues:

"Two years ago it was authoritatively stated that in New England and New York ten per cent of the white pines over large areas were infected with the disease, which kills the trees by girdling them. In certain smaller areas the degree of infection ranged from fifty to one hundred per cent.

"At present there is need to protect the innumerable white pine seedlings that have been planted since that time in connection with reforestation projects, as well as the older trees which have not been damaged. The necessity for protective measures does not, however, arise merely from the fact that the species has exceptional commercial value. The white pine is extensively used as game coverage and for watershed planting to conserve public water supplies."

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INDIANA STATE FORESTER PLANS TO USE WHITE PINE ON A LARGE SCALE AND GIVE THEM PROTECTION FROM BLISTER RUST.

Mr. R. F. Wilcox, State Forester of Indiana, in letter of September 8 writes in regard to a report on the inspection by Pierce of the Clark County Forest at Henryville, Indiana, about 15 miles north of Louisville, Kentucky:

"I am glad to know that our white pine at Henryville is free of infestation. No doubt, it will be attacked some time in the future.

"We are going ahead with the use of white pine in forest plantations almost entirely on our large areas of State-owned land where we can probably control the blister rust.

"The weevil is certainly a menace. At the first sign of (blister rust) infestation we will remove all the Ribes around our State lands.

"I wish to thank you for your inspection of the property at Henryville."

WHITE PINE IMPORTANT ON THE MENOMINEE INDIAN RESERVATION , WIS.

They still grow large white pine in Wisconsin. Mr. Putnam writes that a tree recently cut on the Menominee Indian Reservation measured 72 inches D.B.H. and yielded 10 logs, 16 feet each. The Reservation contains 230,000 acres, mostly timbered. About 20,000 acres is in white pine type, some mature and the rest of pole or reproduction age. The Reservation contains an estimated stand of white pine of 50 million board feet. Some of it will average 40,000 board feet per acre. There are about 200 acres in white pine plantations. The forests are managed on a sustained yield basis. The southern portion has blister rust infection in it. The Ribes have been eradicated in about 600 acres but some of this work was done several years ago and now needs reeradication. Mr. Putnam intends to make a preeradication survey of the entire white pine type on the Reservation to determine Ribes conditions, eradication methods, protection costs, amount of pine infection, etc., as a basis for the preparation of a practical, systematic plan for safeguarding these valuable white pine forests against serious loss from blister rust.

J. F. Martin.

Edit: The first blister rust infection on the Menominee Indian Reservation was found at Keshena in 1918. The first Ribes eradication on the Reservation was carried on in 1920 when an area of 581 acres was covered by crew formation and an area of 1,104 acres was thrown out by an advanced scout. (Data from Wisconsin Annual Blister Rust Report for 1920).

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BLACK CURRANT ERADICATION FINISHED IN CHEBOYGAN
COUNTY, MICHIGAN.

Brief and to the point is the following laconic excerpt from the itinerary of D. J. Stouffer:

"Make complaint and get warrant. Take trooper Barton to Mr. Linton's. Not at home. Take trooper Back to Mr. Linton's and remove bushes. This finishes black currant eradication clean-up in Cheboygan County."

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NEW USE FOR WHITE PINE

School to Use Paddles Made of Soft Wood

Butler, Pa., Aug. 26 - (A.P.)- Perhaps soft wood won't hurt so much. Anyway the school board has issued specifications for paddles to be used on school kids. The paddles must be made of soft pine and not more than one-quarter inch thick. A regulation paddle was ordered after a teacher was haled to court for using a heavy one.

(Extract from the "Milwaukee Sentinel", August 27, 1931.)

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SUGGESTIONS CONCERNING PROTECTION FROM COPPERHEADS

Upon receipt of Mr. Strait's note concerning the copperheads in the pine belt of Ulster County, New York, I wrote Dr. Gloyd of the University of Michigan, Department of Zoology, an expert on snakes, concerning the habits of copperheads.. Under date of August 6 he replies as follows:

"With regard to your inquiry concerning habits of the copperhead, I am very glad to help you to the slight extent which I am able. My studies on the copperhead and the timber rattlesnake in the field have been limited to eastern Kansas where climatic conditions are somewhat different from those in New York and other parts of the East. However, I have no indication from the literature or from the experiences of others to think that the habits of the snakes vary to any great extent in different parts of their ranges except for such activities as are influenced by such factors as temperature, rainfall, etc.

It has been our experience in Kansas that the copperheads do not emerge from hibernation until the frost is well out of the ground and the surface has been warmed considerably. This may occur in Kansas any time after the middle of March. While we have collected both copperheads and rattlesnakes in early March, we have never seen them out in any great numbers until well after the middle of April. I have not had an opportunity to obtain temperature data on when the copperheads first become active. As a rule they are later to appear than other snakes such as garter and ribbon snakes, racers, gopher snakes, king snakes, etc.

"I should think that your suggestion of working the snake-infested areas early in the season, at temperatures just above freezing, would solve the major part of your problem. If it is simply a matter of protecting the person of the worker, there is little danger even later in the season if strong shoes with heavy puttees or high leather boots are worn, and if the worker exercises care in placing bare hands near rocks and brush. In my opinion the very best possible protection from snake bite (even from the large rattlers) is to wear high top leather boots underneath a pair of heavy, straight trousers, or overalls, which come down around the ankles. Even a large snake in striking at a man so attired is apt to hit the pants alone and not the leg, which if protected only by a close-fitting boot, might be penetrated by the fang.

"Contrary to what is often written about them, it has been my experience that copperheads are not particularly vicious snakes, almost never inclined to be aggressive until startled or angered, and the only danger that I regard worth guarding against is the possibility of treading very close to one or actually stepping on it. Such footwear as I have suggested would be ample protection, as the copperhead's fangs are relatively small in proportion to the size of the snake.

"It has been our experience that the copperheads are found basking in the sun only during the early spring days when the sun does not heat the rocks greatly. While we have collected copperheads at almost all times of the day, I am convinced that their chief activity occurs at night. Most that

we find are concealed under flat stones, in crevices along rock ledges and in similar places, although one is frequently found in an unexpected place and at an unexpected time. It is impossible to generalize in regard to this matter, much as it would be advantageous to be able to do so. It is probably true, however, that they are more secretive on cloudy days which are usually cooler, and more active on sunny days. This applies especially to the early spring. Later in the summer, they seem to confine practically all of their activity to night.

"The more I think about the situation with which your men are confronted, the more I think that a policy of dressing so as to achieve a certain amount of protection would be the principal thing to concentrate on. I should wear heavy leather boots or heavy long trousers and not worry about snakes unless they appeared in the immediate spot in which I desired to work."

R.G.P.

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ADDED INFORMATION CONCERNING COPPERHEADS

In reply to our letter of July 15, Professor S. C. Bishop of the College of Arts and Science, University of Rochester, at Rochester, New York, writes as follows:

"I have just returned from a three months' stay in the Adirondack Mountains and have found your letter of July 15th which, unfortunately, was not forwarded to me. I suppose your work during the present season is drawing to a close and that any information concerning copperheads and rattlesnakes at this time would be too late to be of use.

In my experience (and I have collected a few copperheads in Ulster County), these snakes are very difficult to discover during cold weather. They are quite difficult to discover during dark, rainy days, and apparently are most active, or at least most in evidence, on warm, bright days. I believe your men would have little difficulty in the area mentioned if they worked it early or late in the season or on cold, dark days. If the men were equipped with heavy boots and gloves, they would be in little danger at any time but as a matter of precaution it would be wise to carry an antivenin outfit.

Rattlesnakes have much the same habits. I have never been able to find them out during cold weather. They first become evident in this vicinity (Honeoye Lake) in July, although in some years they are reported in late June. They also retire early in the fall and I should be surprised to find them now in their usual haunts.

I hope this belated information may be of some use to you."

THE PINE

I am the pine, the forest king;

I tower the highest, my branches sing
a melody;

I laugh at the storm as it rages past

And sway and swing with every blast
In Ecstasy.

My branches I clothe in living green

That birds I shelter may have a screen
From winter's blast;

So said the Pine

-from "The Trees"
by E. G. Brown.

(From "Fins, Feathers and Fur," September, 1931.)

- - -

AUTO OPERATION COSTS

The cost of maintenance and operation of 21 Federal cars used on blister rust work last year averaged .021 cents per mile. Total mileage was 210,021, average miles per gallon of gasoline 16.15, average miles per quart of oil 157.85, and number of days used 3,214.

J. F. Martin.

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DR. MARTIN ON THE AIR

Dr. J. F. Martin appeared on the U. S. D. A. and Federal Farm Board Network Radio Program on August 12, his subject being "Progress in Blister Rust Control."

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BOOMER COMPLETES SEASON'S WORK

Completed crew work for 1931 on September 10, one day earlier than last year. Leaves were falling fast from gooseberries, and most of skunk currants were defoliated. Had a very good season although acreage will be small.

S. H. Boomer, N. H.

A M O N G O U R S E L V E S

Dr. J. F. Martin recently returned to the office after a few days leave at Amherst, Massachusetts.

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Mr. L. B. Ritter has received an appointment as Junior Forester. Congratulations.

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Mr. J. K. Kroebers' headquarters have been changed from Lansing to Marquette, Michigan.

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Messrs. F. H. Rose and A. J. Lambert have been transferred to Plant Quarantine and Control Administration for transit inspection work.

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Mrs. C. J. Photis returned to the office September 14 from a visit with her mother at Belington, West Virginia.

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Messrs. L. W. Hodgkins and C. T. Geiser have been scouting for blister rust in Maryland, Virginia and West Virginia, with good results.

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Messrs. R. A. Sheals and R. G. Pierce returned the latter part of August from a scouting trip through Ohio, Indiana, Illinois and Iowa.

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Mr. John Griffiths, a senior at the University of Cincinnati, visited this office on September 5. John was a member of this office in the summers of 1927 and 1928, and worked with A. E. Fivaz in New York.

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The sympathy of the Office is extended to Mrs. Wilda Dixon of the Washington Office, upon the death of her mother, which occurred on August 6.

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Dr. John S. Boyce, Professor of Forest Pathology at Yale University spent the summer in the West investigating the forest disease situation in that region. He visited the Washington Office on September 15, 1931, and talked with Mr. Detwiler and Dr. Martin concerning the blister rust condition in the Northwest which he had observed.

P U B L I C A T I O N S

Blister Rust

Anonymous- "Highway Demonstration of Blister Rust Damage". New Hampshire Forests, Vol. VIII, No. 2, June 1931, p. 12.

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Fivaz, A. E. "Longevity and Germination of Seeds of Ribes, Particularly R. rotundifolium, Under Laboratory and Natural Conditions". Technical Bulletin No. 261, U.S.D.A. August, 1931.

Martin, J. F. ""Protect White Pine From Blister Rust", Miscellaneous Publication No. 22 (Rev.), U.S.D.A. July 28, 1931.

Offord, H. R. "The Chemical Eradication of Ribes", Technical Bulletin No. 240, U.S.D.A. May, 1931.

Snell, Walter H. "The Kelm Mountain Blister Rust Infestation". Phytopathology, Vol. 21, No. 9, September 1931, p. 919-921.

White Pine

Cline, A. C. "A Method of Reclaiming Severely Weeviled White Pine Plantations". Bulletin No. 152, Mass. Forestry Association, Boston, Mass. July 1931.

DeBerti, Marco. "Profitable Returns from Two and A Half Acres of White Pine". Service Letter of the Pennsylvania Dept. of Forests and Waters, Series 2, No. 427, August 27, 1931.

Harlow, W. M. "The Identification of the Pines of the United States, Native and Introduced, by Needle Structure", Technical Publication No. 32, Bulletin of the New York State College of Forestry at Syracuse University, Volume IV, No. 2a. April, 1931.

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AGENT KANE HAS RECORD BREAKING SUMMER

Had my biggest summer in blister rust work this year. Worked in 26 towns on town and State appropriations and had 3 jobs from the U. S. Forest Service and 3 on State-owned lands. At present I have 3 crews working on land owned by the Grafton Power Company. We are only doing a part of it this year. Probably it will be about a thirteen hundred dollar job. However, we will continue with the work next year and the year following, as their properties extend seventeen miles on both sides of the river and they want most of the land worked.

T. L. Kane, N. H.



THE BLISTER RUST NEWS



October, 1931.

Volume XV

Number 10

U.S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
DIVISION of BLISTER RUST CONTROL

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E D I T O R I A L S T A F F

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Division of Blister Rust Control
and Cooperating States

Vol. 15, No. 10.

October 1931.

PROGRAM ANNUAL BLISTER RUST CONTROL CONFERENCE

Lakeville, Connecticut
October 29 and 30, 1931.

Headquarters: Gateway Inn

Conference sessions: Friendly Hall

October 29

General Meeting (9:00 a.m., to 12:30 p.m.) - Chairman: Mr. W. G. Howard,
Superintendent Division of Lands and Forests, New York State Conserva-
tion Department.

Greetings - Mr. A. F. Hawes, State Forester of Connecticut.

A state cooperator's viewpoint - Mr. W. O. Filley, Station Forester,
Connecticut Agricultural Experiment Station.

Functions of the Office of Personnel and Business Administration -
Mr. W. H. Rehlaender, Assistant to the Director.

Quarantine regulations and nursery sanitation - Mr. R. A. Sheals,
In Charge of transit inspection, Plant Quarantine & Control Administra-
tion.

Blister rust situation in West - Mr. S. B. Detwiler, Principal Patholo-
gist, In charge, Division of Blister Rust Control.

Field Trip (1:30 to 5:00 p.m.) - Under direction of Mr. J. E. Riley,
State Blister Rust Control Leader of Connecticut.

Inspection of classified pine areas, blister rust damage and effective-
ness of control plots - talk on pine classification by Mr. H. L.
McIntyre, Supervisor, Pest Control, New York - comments by Professor
R. C. Hawley, Yale Forest School, and Mr. A. E. Fivaz, Forester,
Division of Blister Rust Control.

Informal group conferences, as desired, during evening.

October 30

General Meeting (9:00 a.m. to 12:30 p.m.) - Chairman: A. W. Hurford,
State Blister Rust Control Leader of Rhode Island.

Cooperative control work

Special papers and talks on educational features, black currant eradication, Acadia control project, control methods, basis and procedure of re-eradication work, administrative matters and related subjects.

General Meeting (1:30 to 5:00 p.m.) - Chairman: Doctor J. S. Boyce, Yale Forest School.

Public relations in forestry work - Dean Henry S. Graves, Yale Forest School.

Control investigations

Special talks by Doctors Boyce, Spaulding, Snell, Clinton, Hahn, Hirt and others.

Report of committees

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BLISTER RUST ON RIBES AT THE ARNOLD ARBORETUM

In letter of October 8th to Dr. Martin, Mr. E. C. Filler writes:

"During a cursory examination of the Ribes at the Arnold Arboretum, Mr. Detwiler and I on October 3 found the following species infected:

<u>Ribes fragrans</u>	-	heavy
(N.E.Asia)		
<u>Ribes glandulosum</u>	-	medium
" <u>robustum</u>	-	light
" <u>cynosbati</u>	-	"
" <u>multiflorum</u>	-	medium
" <u>diacantha</u>	-	light
" <u>succirubrum</u>	-	"
" <u>americanum</u>	-	"
" <u>nigrum</u>	-	heavy
" <u>alpinum</u>	-	infection ?
" <u>carrierei</u>	-	" ?

On October 7, Hodgkins found the following four species of Ribes infected at the Arboretum:

<u>Ribes orientale</u>	-	heavy
" <u>triste</u>	-	light
" <u>biebersteinii</u>	-	" (W.Europe)(syn. of <u>R. petraeum</u>)
" <u>alpena</u>	-	" (Edit. - This probably refers to <u>R. alpinum</u> since the Kew Index lists no species or variety under the name of <u>alpena</u> .)

Mr. Hodgkins did not, however, have time to make a complete inspection."

AN OBJECTOR BECOMES A FRIEND

A. Mr. A. of Egremont, Massachusetts, possessed a fine lot of cultivated Ribes not far from a good lot of white pine. Twice during the past few years those bushes that were infected by the rust have been destroyed. We inspected the property for cultivated Ribes this season in line of routine duty, and were somewhat suprised at the situation and the owner's arguments. He was positively opposed to the destruction of the bushes and consulted a lawyer. My foreman called for help and together we visited the owner in his garden, or perhaps we should say just outside, for the gate was closed and he had no intention of letting us inside, We will not repeat all the details of the conversation during the interview, but it was pointed and no time was wasted. Mr. A. stated "Since the law says you can take the bushes, go right ahead and I will collect every cent possible as compensation". Four more calls very similar to the above had to be made the same afternoon, so that the foreman did not get a chance to destroy Mr. A.'s bushes until the following day. During the process of extraction, the owner looked on and neither man said a word about currant bushes or compensation. Just before the last bush was uprooted, Mr. A. went into his house to return shortly with a large dish of ice cream and homemade cake which he gave to the foreman. Both men sat down on the lawn, had a friendly chat, and called the incident closed.

The chief argument or statement made by the agent to Mr. A. was that the bushes should all have been destroyed in the first place, that we were going to do the job right and do it at once, unless he wished to take steps to prevent us, which he had a perfect right to do and which we hoped he would do promptly if at all, so that the situation could be cleaned up without delay, once and for all.

Oct. 1, 1931.

G. S. Doore, Mass.

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WILLOW SCAB EVIDENT AGAIN

In western Massachusetts, especially in Berkshire County, the willow scab has been once again evident, this time to a rather alarming extent. It is usually prevalent along the main highways as one passes through the broad meadows which are so characteristic of the southern part of the county. In many sections the willows border the road, sometimes for long distances and to have these trees die or even to have the leaves completely browned is a serious drawback to the otherwise beautiful section of the Berkshire Hills, the natural beauty of which is well known to all who have ever been fortunate enough to visit that section of Massachusetts. The scab or blight, as it is sometimes called, is more general and its destructiveness seems complete at this time insofar as the foliage is concerned. Previous attacks by this disease have left here and there stark evidence of what we may expect from the attack this season.

The Connecticut Agricultural Experiment Station issued sometime ago a bulletin giving such information as is known about the disease. This pamphlet is no doubt still available to those who are sufficiently interested in the subject to apply for a copy.

Sept. 3, 1931.

G. S. Doore, Mass.

BLISTER RUST CONTROL IN MINNESOTA

Chippewa National Forest

During the month of August Agent D. M. Stewart continued with his preeradication survey on the Chippewa National Forest. This survey began July 10 and continued until September 10. Stewart collected Ribes ecology data while making this preeradication survey. This will be of considerable value in making planting plans and blister rust protection plans for State Forests and private lands.

Jay Cooke Park

Ribes eradication in the Jay Cooke Park was completed for this season on August 12. 16,800 currant and gooseberry bushes were uprooted on approximately 210 acres to protect about 200 acres of pine. No effort was made to protect the scattered mature trees in the park. There remain about 20 acres of young pine in the southeast corner of the park that should be protected.

St. Louis County Work Farm

Agent E. B. Dahl started the eradication of Ribes at the county work farm on August 13. A 1,500 foot Ribes-free zone is being established around the proposed nursery of the county farm. This work farm contains approximately 2,400 acres. The Superintendent, Mr. Fred Ward, is starting a 1,400 acre demonstration forest. The proposed forest was cruised by forestry students from the University of Minnesota as part of their practical class work last spring. The inmates at the work farm put in 840 hours on the Ribes eradication. 67,500 Ribes were destroyed on about 45 acres in the vicinity of the proposed nursery. Superintendent Ward plans to continue eradication work next spring.

Educational Work at the Fairs

Blister rust demonstrations were set up by Mr. Ritter and his assistants at a number of fairs during August and September. A statement of the names of the fairs with the approximate number of people who visited these demonstrations follows:

= = =

Aitkin County Fair	-	5,000 people
Itasca County Fair	-	4,500 "
Kanabec County Fair	-	Few "
Lake County Fair	-	3,000 "
Pine County Fair	-	1,200 "
Hibbing Fair	-	4,500 "
Community Fair at Eveleth	-	6,000 "

L. B. Ritter, Minn.

BLISTER RUST CONTROL IN MARYLAND

While no blister rust had been discovered in the State of Maryland prior to 1931, there have been a few instances in which some control work has been carried on in the State.

At the Winchester plantation a few miles northwest of Frederick in the Catoctin Mountains the long row of European black currants, R. nigrum which were found and reported by Mr. J. A. Cope in 1930, were destroyed prior to an inspection of the plantation by Messrs. Hodgkins and Geiser in September, 1931.

At Wolfville, also in Frederick County, as the result of the inspection tour of Hodgkins and Geiser and their explanation of the rust and its control, one of the local pine owners began then and there to pull up the wild gooseberries near his white pines.

For several years Ribes have been eradicated at the Rock Ledge estate of Mr. F. F. Nicola near Thayersville, where extensive white pine plantations have been made. Formerly the Ribes were very common here, according to a report in 1929 of the Maryland State Forester's Office.

It is very likely that there are other instances where the owner of white pine have been destroying the nearby Ribes in order to protect their trees from the rust.

R. G. Pierce

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NURSERY SANITATION IN NEW JERSEY

Plans have been made and work started for the creation of a sanitation zone about the State nursery at Washingtons Crossing, New Jersey. "Sanitation zone" means the removal of currant and gooseberry bushes within infecting range. All currant and gooseberry bushes are to be removed within 1,500 feet of the land used as seedling and transplant beds, and all European black currants are to be removed within one mile. Scouting done thus far has revealed 15 alternate host plants inside the 1,500 foot zone, and 35 outside this zone but within the one-mile zone. Those inside the 1,500 foot zone are 2 European black currants (Ribes nigrum); infected with uredinia and a few telia showing; 10 garden currants (Ribes sativum), uninfected; and 3 gooseberries uninfected. Those outside the 1,500 foot zone are 18 gooseberries and 17 Ribes sativum (uninfected). All of the above-mentioned bushes are on 8 properties. Owners are being approached to obtain their cooperation and permission for removal.

Paul B. Mott, N. J.

TECHNICAL BULLETIN NO. 261 IS APPRECIATED

The recently received publication on "Longevity and Germination of Seeds of Ribes, etc," by "Al" Fivaz is a valuable contribution to the literature relating to blister rust control. Admirably expressed, the description of Fivaz' delving into the past, makes a report full of intensely interesting and valuable information. Although the bulletin is necessarily detailed and technical, the author has been generous in the inclusion of sentence summaries which serve to rescue the important conclusions from the maze of detail. With this authoritative information at hand relative to the factors involved in seed dormancy and the origin of seedlings, we only need now a report regarding the mortality of these millions of seedlings under various conditions of site and exposure.

C. C. Perry, Mass.

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BLISTER RUST DEMONSTRATION A SUCCESS AT SKOWHEGAN, MAINE.

The demonstration at the Skowhegan fair in August occupied a space about 40 x 40 feet on the south side of the Poultry Building, and faced the east. As we believe in showing large infected trees as well as small ones, about twenty living and dead trees ranging from 15 feet to 35 feet in height were used, being spaced so as to appear as near like a natural stand as possible. Among these large trees various varieties of Ribes were planted, both trees and Ribes being tagged with the blister rust tags. Smaller infected trees, about twenty of them, were spaced in the rear and on the north side of the exhibit, making a hedgelike row that was an ideal background to the display. Pine duff to a depth of two inches, together with a sprinkling of pine cones, was spread on the ground. This helped to make a more woodsy appearance.

Agent White, who was in charge, brought along several large treated specimens in the aecial stage and a vial of aeciospores. He also had a high-powered microscope which attracted lots of attention, especially when used to show aeciospores and telial columns.

Without doubt this demonstration was the best one ever put up in Maine. It could be seen from all points on the fairgrounds, the tall trees and the large display banners being the most conspicuous things to meet the eye.

Thousands of people looked it over, making many favorable comments. People from other New England States, as well as New York State, said that it was the best thing they had ever seen along blister rust lines. Our Governor Gardiner visited us and was favorably impressed.

Similar exhibits were shown at Ellsworth, Bluehill, and Belfast. Later in the month we show at the Union Fair.

"Good sized exhibits of good sized trees" is our motto.

W. O. Frost, Maine.

WHITE PINE BLISTER RUST
Demonstration

MAINE FOREST SERVICE

PROTECT YOUR
PINES FROM
BLISTER RUST

Skowhegan, Me. Fair
Aug. '31

Skowhegan, Me. Fair
Aug. '31

RIBES ERADICATION SEASON CLOSES IN WESTERN MASSACHUSETTS

A season devoted almost entirely to the removal of cultivated Ribes drew to a close at noon September 30, with three foremen working at top speed up to the last minute. The last six European black currants known to be in existence in the 61 towns in our districts (VII & IX) were destroyed yesterday morning. When we say destroyed we mean exactly that, for practically every bush has been burned as soon as uprooted.

This season we have been concerned with 52 of the 61 towns under our supervision. All canvassing work has been completed, but there still remain three towns, i.e. Great Barrington, Lenox, and Lee in which cultivated Ribes other than nigrum must be destroyed in 1932.

During September, 124 property owners parted with 1,096 Ribes nigrum and not a single person has as yet applied for compensation. Two hundred and eleven persons sacrificed 1,987 cultivated Ribes other than nigrum. In this latter class, there is a possibility that two owners will request compensation on a total of 59 bushes.

This season just closed has been one of the most trying and nerve racking we have experienced in the past eight years. By this we do not mean that our plan and schedule of work as submitted at the opening of the season was overly difficult to carry out. We had our ups and downs with this, as with any other plan that has to be changed to meet unexpected circumstances over which we have no control. What we do mean is this business of persuading people to give something that they really want and in most cases need, especially during this period of depression. Many have co-operated with us willingly, others have objected very strenuously, and we have been required to use every sales argument our entire force knew or could devise to accomplish the desired results.

Now that the season has come to a close, we welcome the opportunity to summarize the field data from which we expect to be able to reduce costs for operation next season to a minimum.

October 1, 1931.

G. S. Doore, Mass.

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THE MAPLE WORM ACTIVE IN THE BERKSHIRES

During a recent visit to the town of Heath in Franklin County, Massachusetts, we noticed several areas of from 20 to 30 acres or more, completely defoliated. One fine maple orchard has received its second visit from these worms. The real extent of the damage being done is not yet known, but it is safe to say it will be considerable if allowed to continue unchecked. The other day we had occasion to pass over the Mohawk Trail, and while making a brief stop at the "Summit" we scanned the wooded areas to the northeast, which include the towns of Heath, Rowe, and Monroe. In each town there seemed to be evidence that all the towns were infested by the worm. As we proceeded down the Trail to the east, more infested areas in Florida and Savoy in Berkshire County were noted.

Sept. 3, 1931.

G. S. Doore, Mass.

SOCIETY OF AMERICAN FORESTERS HOLDS INTERESTING
MEETING AT POUGHKEEPSIE, NEW YORK.

A joint meeting of the New York and New England sections of the Society of American Foresters met at Poughkeepsie, New York, on September 3-4. Field trips were made both days and included visits to the Rogers estate and Governor Roosevelt's estate, both at Hyde Park, and the Diedrich estate at Millbrook. The Governor addressed the group from the spacious porch of his country estate and later joined them in an inspection of some of his forest plantations. A very interesting meeting was held at the Nelson House in Poughkeepsie, following a dinner there in the evening of the 3rd.

Quite a few former as well as present blister rust employees were among the 96 foresters assembled. The problems discussed were mainly those of forest management, but some attention was given to the white pine weevil and spruce gall aphid, with blister rust as a side line. The discussion of white pine was incidental along with the discussion of species suitable for reforestation.

H. G. Strait, N. Y.

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NOTES FROM RHODE ISLAND

A small ornamental white pine infected with blister rust was found during the last week of September by the State scouts working on the European black currant eradication project in North Providence, R. I. The men, after eradicating several infected European black currants near the property of Mr. W. G. Edmonds, 32 Cushing Street, North Providence, noticed the white pine and reported it to the State blister rust control leader. Inspection, on September 29, of the diseased white pine, which was growing on Mr. Edmond's lawn, showed that it had blister rust infections on several branches. It appears to have been first infected in 1926. The tree was immediately removed with the approval of the owner. This is just one more example of the danger of growing European black currants.

* * *

The Bureau of Forestry of the Rhode Island Department of Agriculture has recently received the book entitled "Wood, Lumber and Timbers" written by Phillips A. Hayward, being Volume 1 of the Chandler Cyclopedia. This is published by J. J. Little & Ives Company, New York. The State blister rust control leader is interested in the short but comprehensive chapter on northern white pine. The data on the other commercial five-needle pines are also of interest since we need to know as much as possible about the trees we are protecting. The mentioned articles are recommended as worth studying.

October 8, 1931.

A. W. Hurford, R. I.

SEPTEMBER IN MASSACHUSETTS

September days were ideal for field work. To be sure, there were many hot, humid days when the eradication of black currant bushes was no child's play. The thermometer reached a maximum of 95° on the 10th and again on the 11th, but later on in the month condutions warned of autumn days ahead, and there was a frost in the Berkshires on the morning of the 27th. The unusually favorable conditions for plant growth seemed to persist and as late as the 30th there were no marked changes in foliage coloration, except, of course, for an occasional red maple, a patch of blueberries, or sumac which were beginning to provide a touch of crimson here and there in the landscape.

A special effort was made during the month to finish up our assignment for the season, particularly with reference to the quota for black currant eradication. This effort was successful, although our 1931 plans as they related to Districts I and II (Northeastern) and V-VI (Worcester) were a bit too ambitious. During the month, black currant work was in progress in 37 towns, and 2,858 more plants were destroyed.

A very limited amount of regular Ribes eradication work was carried on principally in Districts III-IV (Southeastern) and V-VI (Worcester). In this work examinations were made on 13,786 acres of land, and 1,263 wild and 363 cultivated Ribes were destroyed.

Simple displays featuring the use of our stereomotograph and series of 25 lantern slides were arranged at the Eastern States Exposition in West Springfield, Massachusetts, and at the Great Barrington Fair in Southern Berkshire County. Both of these displays were instructive and attracted favorable attention. Agent Doore also used one of the regulation panel displays at the fairs in Greenfield, Charlemont, and Cummington.

All temporary employees were released on September 30, due to the exhaustion of our appropriation. This shortening of the season was unfortunate, because of the present unemployment situation. If funds had been available, it would have been possible to continue with our black currant project for at least another month.

Our next regular monthly item relative to field activities in Massachusetts will appear in the May 1932 issue of the NEWS.

October 2, 1931.

C. C. Perry, Massachusetts.

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BLISTER RUST NEWS ON FILE AT THE ARNOLD ARBORETUM

A complete set of the Confidential News Letter of this Office, and its successor, the Blister Rust News, running back to 1917, has been made up and forwarded to the Library of the Arnold Arboretum, Harvard University at Jamaica Plain. The Editor wishes to thank Messrs. Brockway and Roop for supplying missing numbers in the set.

THE GREEN SUMMER OF 1931

Upon every hand we have been hearing comments about the unusually green condition of the foliage on our shade and forest trees during the current summer season. It is true that our trees have seldom borne such clean looking and fresh foliage as they have this year. Weather conditions have been unusually favorable for tree growth. This, coupled with freedom from pest attack and freedom from dust due to repeated showers, has maintained the landscape in an attractive condition. At the risk of being termed a pessimist, I venture at this time to point out in contrast a few exceptions to these favorable conditions.

In Massachusetts at least, there have been a few pest outbreaks that have detracted not a little from the picture. The first blot upon the landscape resulted from unusually high winds that adversely affected the foliage of many white pines, located principally in the central part of State, that is, Worcester County. These conspicuous red-brown foliaged pines caused considerable alarm for a time and our agent in the section affected was kept busy answering calls for information and assistance. Fear that the damage was evidence of an unusual spread of the blister rust was rampant among laymen.

The greatest foliage damage, however, occurred in our eastern section where a number of insects caused considerable injury, especially to the foliage of shade trees. The greatest or at least the most noticeable damage resulted from the renewed activity of the Elm Leaf Beetle. This insect, once a most common invader of our historic elms, has been under control but for the last two years it has renewed its attack locally and with a vengeance. This year, damage appeared in August, particularly in the vicinity of greater Boston and to the southeast in Norfolk and Plymouth Counties. On many a village green and roadside the elms were completely "blasted" by the skeletonizing work of the larvae of this insect.

The Tent Caterpillar has been such a constant invader of our roadsides that we have become rather accustomed to the appearance of its characteristic "tents". It is bad enough to have such conditions prevail in the spring each year, but to have a recurrence of the unsightly appearance in the fall is rather discouraging. Such was the situation, however, in late August and September when the Fall Web Worm littered every roadside in greater Boston with its large and numerous webs. This outbreak caused considerable furore among local residents and in the local press. In a few towns active campaigns were inaugurated to rid the trees of the nests.

To pass from damage by insect depredators to that resulting from fungi, we have to record an unusually serious outbreak of the willow scab in western Massachusetts. Evidently the excess of rainfall during the summer months, coupled with the prevalence of high temperatures throughout the season, had its effect in increasing the spread of this fatal tree disease with disastrous results to our willow-lined highways of the Berkshires. The

same climatic conditions were also very favorable for the development of the rust or leaf blotch on the common horse-chestnut. This disease is not unusual with us, of course, but seldom if ever has it been as widespread or so damaging to the foliage as during 1931. In the early summer, the rust which attacks our native ash and alternates on certain marsh grasses, was rather spectacular in its attack on roadside ash trees along a part of our coastline, especially in the towns of Newburyport and West Newbury in Essex County. This outbreak, however, was entirely local.

Aside from these major disturbances, there have been a number of outbreaks of minor importance as the before-mentioned Tent Caterpillar, the somewhat abated yet still prevalent injury resulting from the activity of the White Pine Weevil and a local outbreak of the Maple Worm in western Massachusetts. As has been pointed out, the major disturbances have been distinctly local, or when somewhat regional, they have affected scattered trees rather than continuous areas. This accounts for the prevailing enthusiasm regarding the unusually green summer of 1931. Such it was.

September 18, 1931.

C. C. Perry, Mass.

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GRAFTON POWER COMPANY COOPERATES IN BLISTER RUST CONTROL

The blister rust agents who attended the annual conference at Littleton, New Hampshire, in 1930 will recall a visit we made to the gigantic power development at Barnet, Vermont, and Monroe, New Hampshire. In conjunction with the inspection tour, from Littleton to Waterford, we traversed some of the pine lands owned by this company where a great deal of blister rust damage was in evidence.

It gives me great satisfaction to inform the agents that the Grafton Power Company made arrangements this summer to carry out control measures on all their land in Monroe, Littleton and Dalton in New Hampshire, and in Barnet, Waterford and Gilman in Vermont. This will include all pine lands, open areas, and protective strips for same, as the Power Company has decided to plant white pine on all waste lands for watershed protection.

The writer had three crews working in Monroe and Littleton for about five weeks. Work terminated with the defoliation of leaves but will begin next spring and continue until all the company's land is covered.

The Power Company employs a forester who made a hurried examination of the pine stands and reported an infection of ten per cent. However, it is my opinion that a more careful examination of the pine would reveal a much larger percentage. White pine in this locality has been badly hit by blister rust.

T. L. Kane, N. H.

NEW IDEA FOR UTILIZING SMALL WHITE PINE

Mr. Percy Barrett of Clarendon, Vermont, has been making shingles from white pine removed from his lot in improvement thinnings. He rigged up a saw table of 2 inch hardwood plank and used for power a gas engine which he used for sawing firewood, and sent to a firm in Bellville, Pennsylvania, for a form in which to set the blocks. The total cost of the outfit outside of the engine was under \$50.00.

Mr. Barrett has demonstrated his enterprise and thrift by finding profitable employment for himself and hired man during the winter months when the farm duties are light. This utilization of many trees which would not make saw timber, the improvement of the stand by selective thinnings and the working up of a salable product at home all struck me as an example of that spirit of "pepism" that keeps ahead of the hard times. Although these shingles of pine do not last as long as those of cedar they take a preservative treatment exceptionally well.

I have found a considerable demand for split shakes among summer people who are building camps and cottages. Mr. Barrett is going to try this out as the price paid for good, rustic-appearing shakes is double that for shingles.

W. E. Bradder, Vt.

Edit: This is another example of New England Thrift.

* * * *

The above note by Mr. Bradder was forwarded to Mr. Ben H. Nichols of New York for comment. Mr. Nichols writes:

"There is no question that the white pine shingles are all that this article represents. White pine shingles sawed from the heart of large pine will outlast any cedar shingles that were ever used in this part of the country; at least this is my observation.

"In regard to the machinery that this man is using, I have never seen anything of this kind but have no doubt that it is all right and that it will do what is represented."

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FORESTRY FELLOWSHIPS ANNOUNCED

The Charles Lathrop Pack Forest Education Board is offering from 6 to 8 fellowships in forestry for the year 1932-33. Generally speaking the fellowships will range from \$500 to \$1,800.

Applications for fellowships must be made in writing, on the prescribed form, on or before January 1, 1932, to the Secretary of the Charles Lathrop Pack Forest Education Board, 1214 Sixteenth Street, N. W., Washington, D. C. Application forms will be mailed by the Secretary on request.

STRANGE DISEASE FOUND ON WHITE PINES IN UPPER MICHIGAN

On August 26, Mandenberg, Kroeber and myself found near Negaunee in the Upper Peninsula of Michigan two white pine trees affected with a peculiar type of injury causing the death of twigs in a manner similar to flagging by blister rust. The trouble was apparently caused by a fungus somewhat resembling Dasyscypha sp. The damage was characterized by the formation of much resin on the bark. These two trees had perhaps 25 to 50 such killed branches.

Specimens were sent by Mr. Mandenberg to Mr. Strong, Forest Pathologist at Michigan State College. His opinion is shown in the following paragraph quoted from a portion of Mr. Mandenberg's letter to me of September 16:

"A careful examination has been made of these specimens and no indication of infection by Cronartium ribicola can be found. A Cytospora fungus appears to be present on many of the dying twigs but not on all of them. This fungus has been reported from Pennsylvania but is said to be a very weak parasite and only on the leaves and small twigs. The discoloration of the cambial regions under the resin exudations masses look suspicious although such discoloration may be due to the infiltration of resin. Plantings of such suspected tissue have been made and if some organism shows up on the plates with any persistency I will continue further and determine its pathogenicity."

I am going into the Upper Peninsula of Michigan soon and will get some more specimens which I will send to Washington under permit tags.

Oct. 1, 1931.

H. N. Putnam, Wis.

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PENNSYLVANIA FORESTRY EXHIBIT AWARDED BLUE RIBBON

Fire Prevention and Blister Rust Control Shared the Honors.

To the personnel of the Weiser District belongs the credit of having a forestry exhibit at the Schuylkill Fair, September 7-12, which was awarded the blue ribbon by the judges for the best educational exhibit on display.

The exhibit stressed forest fire prevention and the proper method of control of the white pine blister rust. The causes of most of the fires in Schuylkill County were called to the attention of those viewing the exhibit, and also ways of preventing them. A white pine tree and a currant bush badly infected with blister rust were on display, together with literature on the white pine blister rust. Department posters, as well as posters made in the Mahanoy Township high school last winter, were on display. Department bulletins and circulars were distributed.

District Forester Middour reports that the fair was attended by approximately 55,000 people, most of whom visited the exhibit.

(Extract from the Service Letter of the Pa. Dept. of Forests and Waters, Series 2, No. 432, October 1, 1931.)

TIMBER GROWING AND LOGGING PRACTICE IN THE SOUTHERN APPALACHIAN REGIONS*

The following extracts have been made from this bulletin:

Heavy forests once covered the slopes of the Southern Appalachians and these while they remained made the southern Appalachians a timber-producing center which grew in importance as industrial demands for wood products increased in the surrounding region.

After many years of logging the original timber supply of this region is nearing its end. Its replacement has been hindered by repeated cullings which removed most of the usable timber and left the poorest. Forest fires, insects, and the chestnut blight have also contributed to reducing the growth rate on otherwise productive forest soils.

Distribution and Condition of Timberland

For the entire region the area of actual and potential timberland amounts to about 60,771,000 acres, or 59 per cent of the total land area. Of this, more than 21,000,000 acres are in the mountains, but nearly 40,000,000 acres are on the plateaus. Extensive timber tracts, however, are found only in the mountains; on the plateaus the forest consists chiefly of farm woods of 50 acres or less. Farm woods also make up 30 per cent of the total forest area in the mountains, but here they are larger and generally adjoin one another and the more extensive timber tracts.

The eight national forests in the region on June 30, 1929, covered an aggregate area of 1,988,563 acres, or about 3 per cent of the total area of actual or potential forest. This area is being increased under the present Federal program for national forests in the southern Appalachians. National parks, for which land is now being purchased, are expected to cover 755,000 acres in North Carolina, Tennessee, and Virginia. Ninety-five per cent of the area suitable for timber growing in the southern Appalachian region is privately owned.

It is evident that if the southern Appalachian forests are to continue as a self-sustaining supply for the industrial and domestic needs of the region, this must be brought about through the intelligent practice of forestry, and that largely by the private owners.

* Technical bulletin No. 250 by E. H. Frothingham, August, 1931.

In its present condition the forest varies from virgin timber stands to heavily cut-over land, from unburned to badly fire-damaged stands, and from freshly cut, newly reproducing areas to dense stands of second growth. Virgin stands remain in only a few places, mostly in the mountains. Their aggregate area has been roughly estimated at less than 300,000 acres in West Virginia, 220,000 acres in Virginia, and between 1,000,000 and 1,500,000 acres in the rest of the region.

Timber Growing for Industrial Needs

As a source of supply for local industries and for shipment to outside markets the southern Appalachian forests have played an important part in the economic development of the region.

Forty-five years ago very few trees were logged that were under 30 inches on the stump, and no logs were taken at the mills that were less than 20 inches in diameter at the small end. Within the last few years, in seasons of active movement of lumber, trees 9 to 10 inches on the stump have been cut for lumber by large mills, while portable mills have cut to even smaller diameters, in spite of the fact that trees of such small diameters can rarely, if ever, be handled except at a loss--a fact frequently overlooked, especially by operators of small mills.

Large numbers of these portable mills with a daily capacity of 6,000 to 8,000 board feet have come into use, commonly in stands already culled or cut over, taking what remains merchantable of the saw log and tie timber left from previous operations. Much of the output is poorly manufactured and poorly graded and commands lower prices than would be obtainable under more efficient operation.

In seasons of active demand set-ups are justified for tracts of 50,000 or 100,000 board feet, and the investment can be entirely liquidated in one or two months' operation. In periods of small demand, portable mills can shut down without difficulty. The unregulated cutting now practiced by most portable mills is a threat to continuous timber production. The desirable trees are cut, the undesirable left standing, and a serious drain upon the growing stock is thus imposed which can not be so easily checked and corrected as on large operations. Employed with a view to the betterment of the stand, however, the portable mill can probably be more easily transformed into a constructive agent than can the large stationery mill with its heavy continuous demand for logs.

The lumber cut for the entire region was about at the maximum in 1909, when the output in hardwood lumber alone was about 4,000,000,000 board feet. (As nearly as can be judged from available statistics, the present annual cut in the parts of the States included in the southern Appalachian region is approximately 2,250,000,000 board feet.

Utilization of Small Timber

Large quantities of wood in the form of railroad ties, pulpwood, tanning-extract wood and bark, mining timbers, cooperage stock, firewood, poles, posts, and many other products are cut annually in the region. Such exploitation may contribute either to the improvement or the deterioration of the forest.

The representative cut-over areas studied by the Appalachian Forest Experiment Station are only half stocked even with the unmerchantable trees figured in. Although many excellent small stands are scattered throughout the region, it is probably safe to say that the southern Appalachian timberlands as a whole are not making one-third of the growth which the soils are capable of maintaining. If this is the case, the present total annual growth for the whole region is far below that necessary to support the present annual consumption.

The yearly output of lumber and other forest products in the region approaches 6,000,000,000 board feet.

About 90 per cent of the mountain timberland is more or less depleted of merchantable timber. The natural replacement with thrifty second growth is handicapped by defective and unmerchantable trees left standing after logging.

Data on White Pine

Among the valuable and relatively abundant species of the moist sites are northern white pine, red oak, and white oak. Northern white pine is rather irregularly distributed, and there are considerable areas where it is rare or absent. It reproduces well, with frequent though not annual seed years, but the early growth of the seedlings is so slow that many are likely to be killed by the competition from any rank growth of hardwood sprouts and seedlings, shrubs, or herbs. Later growth is very rapid. Plantations of white pine on the Biltmore Estate, N. C., show a more rapid growth than is indicated for the best quality of natural white pine stands in New England.

Northern white pine is not very fastidious and shows a capacity to succeed on some of the higher slopes which are not too dry or too exposed to winds. In the southern Appalachian region it has hitherto appeared relatively free from serious insect or fungus enemies, but elsewhere in its range a very serious disease, the white pine blister rust (Cronartium ribicola, Fischer), has done much damage, since 1900 or earlier when it was imported from Europe on white pine seedlings. Fortunately wild currants and gooseberries, the alternate hosts of the disease, are generally rare at the altitudes at which northern white pine grows in the southern Appalachian region. Safety from the disease, however, is a very good reason for a strict quarantine on shipments of white pine planting stock from outside the region. Seedlings for planting in the southern Appalachians should be grown from seed within the region.

O F F I C E C O M M E N T

MEMORANDUM CONCERNING SHIPPING EXPENSES

Heads of Divisions:

I enclose herewith copy of P.B.A. Circular No. 183, urging the necessity of careful economics to avoid shipments by express, where, through reasonable foresight, the shipment could as well have gone by freight. Frequently shipment by express is necessary only because care was not exercised by the officials concerned.

Please see that the enclosed memorandum comes to the attention of members of your staff.

Very sincerely,

B.P.I. Memo. 603.
Sept. 29, 1931.

Wm. A. Taylor,
Chief of Bureau.

REDUCTION OF SHIPPING EXPENSES

The attention of Bureau officers is again called to the economy effected in shipping by freight instead of express.

The use of express for large shipments of stationery and other office supplies should be avoided and where an emergency exists only such amounts as are necessary for temporary relief should be forwarded pending the receipt of a larger supply by freight.

Care exercised in anticipating field station requirements of this character would save many thousands of dollars in the course of a year.

The cooperation of every administrative officer is requested in reducing to a minimum our transportation costs.

P.B.A. Circular No. 183
Sept. 23, 1931.

W. W. Stockberger,
Director.

A M O N G O U R S E L V E S

Mr. S. B. Detwiler left Washington the latter part of September for a field trip in the Northeastern States.

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Mr. Paul B. Mott, State Leader in New Jersey, writes that he has been appointed as a representative of the State Department of Agriculture on the State-wide committee for tree planting to commemorate the Bi-Centennial of George Washington's birth.

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Messrs. R. P. Fatzinger's and J. J. Gackenbach's headquarters have been changed from Brockway, Pennsylvania, to Department of Forests and Waters, Harrisburg, Pa.

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Mrs. Agnes Shields of the Washington Office is spending her vacation in Philadelphia and New York City.

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Professor Frank A. Gilbert, of the Department of Botany, Marshall College Huntington, West Virginia, in letter of September 23 writes for information concerning the blister rust situation in the United States. He stated that he worked for one year and four summers under Mr. Perry in Massachusetts, from 1922-1926.

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In the Fall Golf Tournament for the Championship of the Dept. of Agriculture held at Beaver Dam Country Club on October 5, 1931, J. M. Palmer represented this Division and finished the 36 holes of medal play in fifth position in a field of fifty-two. The Asst. Secretary of Agriculture, Hon. Renick W. Dunlap, personally presented the Dunlap Trophy to the winner of the low net championship.

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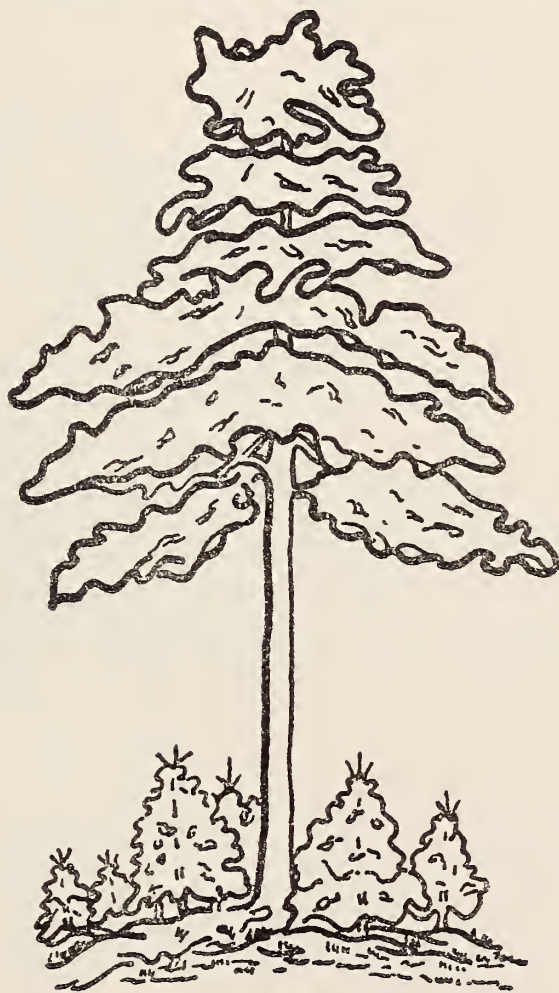
The sympathy of the Office is extended to Miss Brycie Bayles of the Washington Office upon the death of her mother, which occurred on October 4.

P U B L I C A T I O N S

Blister Rust

McIntyre, H. L. and H. G. Strait - "History and Control of White Pine Blister Rust in New York State", Bulletin 18 of the N. Y. Conservation Department, Division of Lands and Forests. 1931

THE BLISTER RUST NEWS



October, 1931

NOVEMBER, 1931

Volume XV

Number 11

U. S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
DIVISION of BLISTER RUST CONTROL



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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Division of Blister Rust Control
and Cooperating States

Vol. 15, No. 11.

November 1931.

COMMENTS ON THE CONFERENCE

Now that the annual conference is over I assume that a word or two commenting on the event will be in order.

The program consisted of some excellent topics and I believe that everyone who attended could not help but derive a lot of benefit from the conference. Perhaps the discussion on the various papers were not entered into by the Agents as enthusiastically as they might have been, and for this reason it is possible that those responsible for these annual conferences wonder whether or not they are worthwhile. The program was full and the time limited, therefore the discussions on the various papers necessarily had to be short. A feature which might be introduced is to have, say a half day in which no papers or talks are presented, but have the session thrown open to the house for any and all subjects. Then have the remainder of the program sort of closed to discussions, thus giving all the more time for instructive papers and talks.

The various talks during the last afternoon of the conference I thought were extremely interesting. Research and study concerning not only our blister rust control, but other fungi and insects cannot be anything but helpful to us, because here in the field the public expects us to have all this first-hand information. They do not expect us to shake our heads and say, "Well, I am not familiar with this or that disease or insect."

These conferences involve a lot of time and effort to those who are responsible, and I hope the feeling will not prevail that they are not appreciated or worthwhile, for we all carry home a lot of new ideas and information which we can think about and refer to.

G. H. Kimball, Me.

SIDE LIGHTS ON THE CONFERENCE

The presence of Mr. Detwiler, who was forced to be absent at last year's conference, was stimulating.

* * *

An outstanding feature of one of the early meetings was the appreciation of Hodgkins' fine work in various fields. Such praise would have turned the head of many a younger man.

* * *

Did you note the pleasure of the "Blister Rusters" in having Harris A Reynolds, genial Secretary of the Massachusetts Forestry Association, back at the conference again?

* * *

Did you note that there were 3 men present who attended the conference held in New York City on June 28, 1909? These veterans were Mr. W. O. Filley, Mr. A. F. Hawes, and Dr. Perley Spaulding.

* * *

The conference missed the presence of "Bush" Ninman; F. H. Rose and Arthur J. Lambert, temporarily on quarantine work; Tom King because of illness; and others who have usually been with us.

* * *

Twas 6:30 a. m. on the 2d day of the conference and Ye Scribe came down to the Hotel Lobby believing it would be quite empty. Far different! Eight or ten husky New Yorkers and one or two others were there eying the dining room door waiting for 7 o'clock to open it. Habit is strong in New York - they start work early.

* * *

The Mid-Westerners, Kouba and Ritter, have strong faith. They arrived at Lakeville about midnight of the day before the conference with only a pint of gasoline left in their machine.

* * *

The clannishness of the blister rust agents is remarkable, the agents from each State desiring above all else to go into a huddle at each meal with men from their own State. Fortunate were Kouba and Ritter of Wisconsin and Minnesota, who because of their being the only men present from their States, had the opportunity to visit with men from other States at mealtime.

* * *

Did you note the rapt attention which the agents gave to Hicock of Connecticut when he talked of the European Pine Sheet Moth hitting the red pine? This model tree, praised for its freedom from pests, seems to be no better than the rest of the pines.

* * *

Thanks, Riley, for this good conference.

"Old Timer"

BLISTER RUST CONTROL IN THE MARQUETTE DISTRICT IN
THE UPPER PENINSULA OF MICHIGAN IN 1931.

In Marquette County, Michigan, eradication was carried on on 6 projects, the area worked amounting to 3,460 acres, and the number of wild Ribes removed 142,885. Three of the projects, namely, Negaunee, Palmer and Owinn School Forests, have as yet not been completed.

Besides the above, scouting was carried on on 6 additional projects, the area scouted being 2,500 acres. No Ribes, however, were found on this area.

In Dickinson County on 4 projects, 22,475 wild Ribes and 129 cultivated Ribes were destroyed on an area of 1,000 acres.

In Menominee County control work was carried on on 5 projects, a total of 18,400 wild Ribes and 161 cultivated bushes being destroyed on an area of 810 acres.

In Delta County on 3 projects, one of which, however, was not finished, a total of 276,722 wild bushes and 300 cultivated bushes were destroyed on an area of 637 acres.

European black currants were destroyed as follows: Baraga County 826, and Iron County 1,299.

J. K. Kroeber, Mich.

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BLISTER RUST FOUND IN VIRGINIA ON NOVEMBER 14.

The season has been so open south of Pennsylvania with only a few freezes occurring in the lowlands that Ribes leaves still remain on the bushes. Mr. C. T. Geiser of the Washington Office took a few days' leave last week and drove to the mountains around Luray, Virginia. Here he found the blister rust at Thornton's Gap east of Luray, approximately 2900 feet elevation, on two bushes of the roundleaf gooseberry (*Ribes rotundifolium* Michx.) Twelve bushes were examined but only two had infected leaves.

This is not a newly infected area since Geiser and Hodgkins found blister rust here on one bush on September 12, but it is noteworthy in showing the possibility of late scouting in the general region.

As a sailor on leave gravitates toward the water, a blister rust man on leave keeps his eye peeled for blister rust on pine and Ribes. Good Eye - Charles.

Nov, 17

R. G. P.

TENTATIVE SUMMARY OF 1931 RIBES ERADICATION WORK
IN MASSACHUSETTS

The active Ribes eradication season in Massachusetts came to a close throughout the State on September 30. Time has not as yet permitted of a complete tabulation of the field records, but the following tentative summary may be of interest at this time:

Total acreage examined for Ribes.....	115,000
Total number of wild Ribes destroyed.....	258,500
Total number of black currants destroyed.....	11,500
Total number of other cultivated Ribes destroyed	3,500
Expenditures by cooperating property owners.....	\$3,500

Our attention during the 1931 season was equally divided between regular control work, and the special black currant eradication project. This accounts for the considerable reduction in the number of Ribes destroyed, and the expenditures by cooperating agencies.

We have now practically covered initially the white pine producing areas in the State. There still remain scattered areas where the cost of control work has been so high that owners have been unable to make the expenditures, but the total acreage in this category is not large. In the special black currant project, three-fourths of the State area has been examined for black currants, and they have been eliminated in that area. This does not necessarily mean that the task is three-quarters completed for the reason that much of the territory still to be canvassed is in the centers of population where the inspections that must be made are very numerous, although the actual number of black currants in existence is probably not very large. The territory still to be covered includes roughly the southern half of Worcester County, eastern Middlesex County, Essex, Suffolk, Barnstable, Dukes, and Nantucket Counties.

November 4, 1931.

C. C. Perry, Mass.

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NEW COUNTY IN WESTERN WISCONSIN INFESTED WITH BLISTER RUST.

A short time ago I discovered near North Bend, Wisconsin a large Ribes cynosbati heavily infected with blister rust and two nearby cynosbati lightly infected. North Bend is situated in the southwestern corner of Jackson County about 16 miles from the Mississippi River and about 40 miles north of the Iowa line. Ribes missouriense outnumbered cynosbati perhaps 8 to 1 on this area. However, Mr. Thomas Thompson the owner, and I, could find infection on none of the former. This North Bend infection is of particular interest to us because it is over 25 miles farther south than any other infection we have found thus far in the western portion of Wisconsin, and it is endangering some valuable pine stands along the Black River in Jackson County. Mr. Thompson is assisting in control of blister rust by removing the bushes on his property.

T. F. Kouba, Wisconsin.

BLISTER RUST DEMONSTRATIONS AT PENNSYLVANIA FAIRS

During the month of September, demonstrations featuring blister rust control were placed at four fairs. The demonstration at the Troy Fair was installed by Fatzinger, May and DeBerti. An Army squad tent was used to house the material. Infected pine and Ribes bushes, cankers varying in size and condition, as well as explanatory posters and photographs were used to make up the demonstration. The fair was held from September 2 to 5 with an attendance of approximately 4,000. Numerous inquiries were received from persons interested in blister rust and forestry.

On September 6, the demonstration was moved to the Athens Interstate Fair. This fair ran from September 7 to 12. Here the material used at Troy was incorporated with the regular Department of Forests and Waters demonstration. The attendance at this fair was approximately 9,000. The demonstration attracted much attention and many favorable comments. However, little was done in receiving new cooperators. This was probably due to the fact that the attendance was made up chiefly of people from nearby industrial centers.

From Athens the blister rust demonstration was moved to Mansfield for the Tioga County Fair, September 16-19, where visitors evinced much interest. The attendance was almost 4,000.

The forestry demonstration at the Schuylkill County Fair, installed by the personnel of the Weiser District, received the blue ribbon award for the best educational exhibit. The display stressed white pine blister rust control and forest fire prevention. The attendance at this fair was approximately 55,000.

R. M. May, Pa.

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BLISTER RUST SPREADING SOUTHWARD IN WISCONSIN

Mr. E. L. Chambers, State Entomologist of Wisconsin, writes under date of October 31, 1931, as follows:

"Mr. Kouba discovered blister rust in Madison on black currants last week. There were ten bushes growing in the yard of the premises on which the rust was discovered, and four of these were very heavily infected with blister rust. The foliage on the black currants was unusually large, and due to the fact that we have had an unusually late season with no killing frost to date made it possible to locate these bushes at this late date."

Madison is only 40 miles north of the Illinois State line.

SUMMARY OF BLISTER RUST CONTROL WORK IN WISCONSIN - 1931

Blister rust control work in Wisconsin during 1931 was virtually limited to the northwestern quarter of the state as the disease was discovered in that region and from there it has spread to other parts of the state. Infection on pine or Ribes, or usually on both, was found in almost every stand we worked this year. We encountered more R. cynosbati than any other species, with glandulosum a fair second and missouriense and americanum a strong third.

Our systems of cooperating is to have pine owners furnish the labor while a state foreman supervises and checks the work. With this method we have found that cooperation comes with less effort than if the pine owner were to pay cash to the state for the work. We have also found that often the quality of the work suffers somewhat because a foreman is forever training new men. On the other hand, we feel that pine owners, having acquired some knowledge of blister rust and some intensive training in pine protection will take the initiative thereafter and keep their pine free from Ribes.

Summary

Number of cooperating owners- - - - -	51
Number of acres worked - - - - -	3,967
Number of wild Ribes removed - - - - -	313,515
Number of cultivated Ribes removed - - -	324
Ribes per acre - - - - -	79
Cost per acre - - - - -	\$.51

T. F. Kouba, Wis.

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BLISTER RUST CONTROL IN PENNSYLVANIA

During September, 85 initial interviews were made and 79 follow up calls. Personal instruction in the field on the rust and control measures was given to 91 individuals.

The equivalent of \$94.77 was spent by 17 individual owners to eradicate 18,926 wild Ribes and 90 cultivated Ribes covering 798 acres. The Ribes on 2524 acres of private land were eradicated by scouts, on which 558 wild Ribes and 94 cultivated Ribes were destroyed. Eradication work on State lands was carried on in the Tioga and Kittanning Districts, covering 150 acres, destroying 60,236 wild Ribes at a cost of \$375.54.

Eradication work was discontinued over practically the entire State about the middle of the month as most of the Ribes had dropped their leaves by that time.

October 19, 1931.

R. P. Fatzinger, Pa.

RANGE OF HUDSON BAY CURRANT IN WISCONSIN EXTENDED

Prior to September of this year the Hudson Bay currant (Ribes hudsonianum Richards) had only been reported from 3 counties in Wisconsin, namely, Ashland, Douglas and Vilas in the northern tier of counties. On September 3, the writer ran across some R. hudsonianum about 3 miles northwest of Rhinelander in Oneida County. This county joins Vilas on the south. The hudsonianum were confined to a very small area about 25 feet square along a tiny creek. No blister rust was found on the bushes. Only occasional white pine were seen in the vicinity.

On September 28 another patch of R. hudsonianum was found 2 miles south of Park Falls in Price County, Wisconsin. Along a rough logging road leading into a swamp clumps of from one to ten hudsonianum bushes were found for a distance of about 100 feet. No blister rust was discovered on these bushes. There were no white pines nearby.

H. J. Ninman, Wis.

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EDUCATION VIA THE CARAVAN ROUTE

According to letters in "The Smoke Screen" from St. Paul, Minnesota, the Minnesota Conservation Commission and their guests made a recent inspection trip by auto of the North Woods with fine results from an educational standpoint. One of the letters is here given showing the value of the tour:

"Whoever conceived the idea of applying the caravan plan to conservation rendered the cause a great service. This was demonstrated in the case of the recent tour of the Conservation Commission, its executives and friends through northern Minnesota.

"A favorite subject of Lyceum discussion, years ago, was the relative merits of reading and travel as a means of instruction. The Commission evidently decided that there was no need of choosing between them, but to employ them both. Hence the tour.

"It proved to be a means not only of acquiring valuable knowledge, but it afforded opportunity for human contact at every point visited. The people and the party met face to face and often around a table. They came to know each other and to get other's point of view.

"And after all, conservation is not simply a matter of cold scientific knowledge. It also involves the human element. The Conservation Caravan, as I like to think of it, was a decided success."

Judson L. Wicks, President,
Minnesota Division,
Izaak Walton Leage of America.

BLISTER RUST DEMONSTRATION TO MASSACHUSETTS
TOWN FOREST CHAIRMEN

Early in October the chairmen of various Town Forest Committees in Massachusetts met for an annual conference and field inspection tour at Greenfield. The town forest movement in this State was started by and still is under the direct guidance of Mr. Harris A. Reynolds, Secretary of the Massachusetts Forestry Association. Such an important gathering of forty forestry-minded men, representing as many towns, prompted your agent to intrude for the purpose of arranging for a blister rust demonstration en route.

Before reaching the infection area, we had the pleasure of accompanying the conference members to several areas of interest from a forester's standpoint. Our first stop was made at the Greenfield Town Forest, which is composed largely of the watershed, protecting the municipal reservoirs. Here white pine plantations play an important part in the reforestation program and were the center of interest. The questions of pruning, thinning and weevil control were discussed within the pine areas. (This area was protected from blister rust in 1923 and the town cooperated in reexamination of the same area a few years later. During this most recent visit no one could find Ribes or infected pine within the forest.)

The next stop was at the Franklin Forestry Company's Nursery at Shelburne Falls. The nursery was inspected and Mr. Langdell, President of the Company, gave a brief talk and then answered various questions concerning planting and planting stock.

The third stop, the one in which we as blister rust agents are most concerned, was made possible only through the splendid cooperation of Mr. Reynolds and Extension Forester Parmenter, the latter consenting to delay his talk to the conference until evening in order that your agent could have time to hold a blister rust demonstration at the Claremont-Rowe infection area. This plot, one acre in size, is well stocked with white pine ranging in height from 20 to 60 feet. Infection runs well over 50% and a good many trees 35 feet tall are dead as a result of the rust. In one section of the plot the damage is so evident that one person asked if we were sure that a fire had not been in the area. Practically every one expressed appreciation for the opportunity afforded them to see the plot, and voiced considerable surprise at the apparent damage and large number of dead and dying trees. All infected trees were marked with white paint in the usual way so that no time was lost on that score. Every one received a copy of the new folder, Miscellaneous Publication No 22 as revised July 28, 1931. In several cases persons asked for additional copies for their friends or coworkers.

Daylight was rapidly fading as the demonstration drew to a close so the party hastened on to the next stop at the "Mohawk Trail" State Forest Camp Ground, and thence on to North Adams where the opening address of the evening was received from Governor Ely via the radio, his subject being Conservation and Forestry.

The following day the party visited the Town Forest at Williamstown and later continued on to the Mount Greylock Reservation. From the summit of Greylock, the highest peak in the State, the party enjoyed a bird's-eye view of northern Berkshire County, northeastern New York State and southwestern Vermont.

We went to the conference fully prepared to take advantage of every minute afforded us. In the back of the car reposed our stereomograph and a full set of slides, which by the way had just completed a three days run at ten p.m. the night before at the Three County Fairs at Northampton, Massachusetts. Unfortunately, we could not make use of this equipment because of the crowded schedule for the conference. For this reason I returned immediately to headquarters at the close of the blister rust demonstration, thus holding the additional expenditure for our particular part of the program to an exceedingly low figure, i.e. the cost of operating the Government-owned automobile for 105 miles. The actual cost of the gas was less than sixty cents.

It is felt that this demonstration was very much worthwhile, since it reached a large number of persons actively interested in and practicing forestry and forest protection. Those present are now better able to pass along reliable first-hand information concerning blister rust and to point out very clearly what may be expected if white pine is not properly protected from the rust. It may be interesting to know that four chairmen, representing four of the principal water boards in the State, were present at the demonstration. While we have no immediate way of measuring the value of such educational work, nevertheless we do feel that this particular meeting in a badly infected pine area will be far reaching, and possibly smooth the way for some other agent in securing cooperation either in initial examination or reexamination of pine areas.

October 26, 1931.

G. S. Doore, Mass.

Note: This is the incident referred to by Mr. Reynolds in his talk on "Public Relations" at the recent conference in Lakeville. It is a splendid example of making contacts with the other fellow engaged in a related activity.

C. C. Perry

WASHINGTON ARTIST SPENDS TEN DAYS IN THE WOODS

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Miss Brycie Bayles, artist in the Washington Office, spent ten days in Vermont studying the Waterford, East St. Johnsbury, Lyndon and Littleton infection areas. Miss Bayles compiled data from actual conditions for the coloring of photographs in Blister Rust files, and also made some photos in the above areas. She visited the Museum of National Science in St. Johnsbury and found that they would be glad to have a permanent exhibit of blister rust, including specimens of pine and Ribes.

R.G.P.

THE REPLANTING OF CULTIVATED RIBES IN BLISTER RUST
CONTROL AREAS IN MASSACHUSETTS

At a recent conference at Lakeville, Connecticut, I was called upon to respond to the topic "Prevention of Cultivated Ribes Replacement in Control Areas". Unfortunately, I had no previous knowledge of the assignment and was, therefore, not properly prepared with figures to justify any statement whatever. Upon reference to the actual field records, I found upon my return to headquarters after the conference, that the statement I did make cannot be entirely supported by the field records.

During the 1931 field season complete reexaminations were made by Agent Brockway in the control areas in five towns (Bridgewater, East Bridgewater, Lakeville, Norwell, and Pembroke) in the Plymouth County section of Districts III-IV (Southeastern). In this work we encountered for the first time this problem of the replanting of cultivated Ribes in control areas. In these five towns, in the initial control work which was completed during the years 1922-1925 inclusive, a grand total of 13,223 cultivated Ribes were destroyed. In the 1931 recheck there were 1,373 Ribes under cultivation. This represents a replanting of 10% of the number of Ribes destroyed in the initial campaign, and indicates that there is a problem involved requiring more adequate prevention of such replacements.

From our experience of this year, it was a satisfaction to find that practically none of this replanting has been willful, but rather that there has been a rotation of population and with the influx some Ribes have been brought in and planted. In other words, it would appear that there needs to be a strengthening of the method of informing local residents that they are in a control area where the further planting of Ribes is forbidden. Printed signs are now posted every spring in post offices, in town halls and in railroad stations for the purpose of informing the public regarding the regulations, but apparently this is not completely effective.

The chief weakness in the situation is that there is nothing to prevent the sale of Ribes in certain marketing centers like Boston, Wocseter, Springfield, and Pittsfield and such cities, which cannot be designated as control areas. Then, there is in turn, nothing to prevent anyone from going to such centers, purchasing Ribes and taking them home with them. We solicit the cooperation of all permittees selling Ribes, furnish them with the list of control areas, and warn them that Ribes must not be sold for planting in such towns. In the rush of the business day, however, there are many ways in which our wishes in the matter may be and are defeated.

In spite of the fact that replanting has taken place, it is very evident that the Federal quarantine has been effective in keeping these replacements at a minimum. Under the control-area-permit system the nurserymen selling Ribes have been very effectively educated to the fact that shipments cannot be made without permits. In fact, this is our best safeguard, and should there ever be a revision of the Federal quarantine it is certainly to be recommended and urged that this provision be retained in its entirety. Without it the situation would soon be out of hand.

It appears, then, that a recheck of control areas for cultivated Ribes is not only essential but it may be that it will be in the interests of more effective control to make such rechecks more frequently than we have heretofore. The fact that the replanting has not been willful will eliminate some of the unpleasantness encountered in the initial work. It was the fact that we had experienced little difficulty during the past season in removing the replanted Ribes that led me to make a rather too optimistic statement at the conference regarding this particular phase of blister rust control.

Nov. 4, 1931.

C. C. Perry, Mass.

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PLANT QUARANTINE OFFICE FINDS BLISTER RUST
ON RIBES SHIPMENTS IN MASSACHUSETTS

Mr. R. A. Sheals of the Plant Quarantine and Control Administration has just advised the Washington Office that a shipment of European black currant, Ribes nigrum, from Georges River, Nova Scotia, to Boston, Massachusetts, was intercepted by Mr. W. G. Bemis on October 26, 1931. The leaves were infected with white pine blister rust, Cronartium ribicola, and were overgrown with saprophytic fungi. The specimen was determined by Mr. R. W. Davidson.

* * *

Mr. E. J. McNerney, while on transit inspection for Plant Quarantine and Control Administration in Massachusetts, noted a shipment of cultivated red currant going from one private party to another within the State. The currant bush was infected with the white pine blister rust.

R.G.P.

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ENDERSBEE STILL PLANTING TREES

It will be remembered by readers of the Blister Rust News that W. J. "Bill" Endersbee, who was on the roll of the Division of Blister Rust Control for many years, used to take leave every spring to go to his former home in New York and plant several thousand coniferous trees. According to the "Forest Worker" Bill is still at it. Under the direction of Endersbee, Forester for the St. Lawrence University of Canton, New York, some 30,000 trees were planted on a second demonstration forest. This planting is 2 miles west of Sandy Creek in Oswego County. White pine is one of the 8 species being planted.

We are glad Bill is keeping up the good work.

R. G. Pierce.

THE LORD PINES IN N. H.

"Mr. Frank S. Lord of Center Ossipee gave to the State of New Hampshire in October, 1929, about 12 acres of land covered with fine mature white pine as a roadside reservation. Many years ago when Mr. Lord operated this lot he reserved a strip of growth on both sides of the highway for more than half a mile. These tall, stately pines average over 30 M feet to the acre and add greatly to the attractiveness of the roadside in this section."¹

Mr. Newman writing concerning this gift to the State, states that the Ribes on the area in which the pines are located were destroyed in 1920. Mr. Lord, he said, has been a supporter of blister rust work in the town of Ossipee ever since the inception of the work.

Edit: Page the blister rust agent in charge of the work at Ossipee. Has this particular area of 12 acres been examined recently to determine whether Ribes conditions require that it be reworked? If not, the elapsed time since the original eradication indicates the need of reinspection of the tract.

- 1 Extract from Biennial Report of the New Hampshire Forestry Commission for the two Fiscal years Ending June 30, 1930, p. 65.

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BLISTER RUST FOUND ON BLACK CURRANTS IN ALPENA COUNTY, MICHIGAN

Mr. E. C. Mandenberg in Letter of November 3, writes:

"One of our Orchard and Nursery Inspectors, Mr. F. M. Leffler, making inspections of native trees in Alpena County, yesterday sent in leaves of the cultivated black currant taken from a bush on the premises of Tom Goodburne of Alpena, Michigan. These leaves were rather heavily infested with blister rust.

"This, I think, is the first time that blister rust has been found on cultivated black currants in Alpena County. This county has considerable pine in it."

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BLISTER RUST IN THE NATIONAL PINETUM AT BEDGEBURY, KENT, ENGLAND

Fungous diseases have caused the death of a number of trees. Of these the honey fungus (Armillaria mellea) has taken the highest toll. As there are so many dead stumps of trees about the ground, losses from this disease must be expected ****. Weymouth pine (white pine) rust (Cronartium ribicolum) has been noted amongst the 5-leafed pines, and affected trees of Pinus strobus, P. excelsa, and P. armandii have been destroyed in an endeavor to prevent the spread of the disease ****.

(From Bulletin of Miscellaneous Information, Royal Botanic Gardens, Kew, No. 4, 1931.)

STATEMENT BY AUTHORITY ON SNAKES APPRECIATED

Agent H. G. Strait of New York in letter of October 17th to the Washington Office writes:

"The letter by Dr. Gloyd is very constructive and I believe offers some very good suggestions. It seems to me the best thing to do is to get in there as early in the spring as possible, letting the men work in pairs or threes with ample protection on their legs and hands and clear the block up and then forgot about that particular area just as long as our conscience will permit. The pine as a whole is not very valuable except one or two small areas. There is not much chance for reproduction since most of the land is covered with brushy hardwood. So far as I am concerned I would be perfectly satisfied if we could turn that particular road block into a snake preserve. In fact, from what I can learn the snakes have it already.

"I will write you another year after having experienced the thrills which I anticipate may come to us."

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MARYLAND BLISTER RUST CONFERENCE

A meeting was held at the University of Maryland on November 10th under the direction of Dr. T. B. Symons to consider the white pine blister rust situation in the State. It was attended by representatives of State and Federal agencies interested in the protection of white pine from this disease. A committee consisting of Dr. F. W. Besley, State Forester; Dr. E. N. Cory, State Entomologist; and Prof. C. E. Temple, State Pathologist; was appointed to work out plans for the control of blister rust in Maryland.

J. F. Martin.

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BLACK CURRANTS PROFUSE IN ONE TOWNSHIP IN CLINTON COUNTY, PA.

I have found what I believe to be the only area containing wild black currants in this district. It is located in the northwestern section of Lamar Township, Clinton County. They grow very profusely there. I pulled approximately 500 bushes to secure a 900 foot protective strip on two sides of a 6 acre woodlot. It is also interesting to note that not a gooseberry bush was found in this area.

Samuel Kern, Pa.

SUMMARY OF ERADICATION WORK IN DISTRICT 5, NEW HAMPSHIRE

During the eradication season in District 5 there were destroyed 603,564 Ribes on 10,337 acres on initial eradication work; also 35,121 Ribes on 3,851 acres on reeradication work. The figures for all the eradication work done in the District to date follow:

	Acres Cleared of Ribes	Ribes Destroyed	Average Number of Ribes per Acre.
Initial eradication	230,246	5,070,670	22
Reeradication Work	8,972	52,878	6

Total Ribes destroyed in District; 5,123,548

There are several interesting things to note from these eradication figures. First, the number of bushes found per acre on reworked areas is less than 1/3 that found on areas worked for the first time. Second, while the total area covered this year (14,188 acres), is practically the same as the area covered in 1930 (14,726 acres), there is a great difference in the Ribes destroyed in the 2 years. In 1931 there were 638,685 Ribes destroyed as compared to 367,933 for 1930.

I believe the crews and scouts in this District did the best work they have ever done. They missed very few Ribes and were on the job at all times, showing more real interest in the progress of the work and taking more pains themselves than in any previous years.

Oct. 27, 1931.

G. F. Richardson, N.H.

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THREE NEW NATIONAL FORESTS IN THE UPPER PENINSULA
OF MICHIGAN DEDICATED.

Mr. J. K. Kroeber has recently written the Office concerning the dedication of the Hiawatha, Marquette and Ottawa National Forests. The ceremony of dedication took place on September 21-22 at three monuments, one on each Forest. According to an article in the "Development Bureau News" of Marquette, Michigan, there will be "placed a 16-foot, white pine log (near each monument), which will be officially designated a 'George Washington Pine', in honor of the first president, born 200 years ago. The log ends will be shellacked and their bark treated, so that they will be preserved indefinitely. Monuments and logs will be surrounded by suitable landscaping, which will include the planting of trees by the U. S. forestry forces."

A SIMPLE, QUICK AND INEXPENSIVE METHOD OF PREPARING LANTERN SLIDES

The advantages of a quick method of preparing lantern slides which may be simply done and without the usual cost are especially valuable in the case of taking diagrams from a text or journal, or for producing necessary slides on short notice.

I have found the following preparation to have the above qualifications and to be very effective. Take a plain glass lantern slide, thoroughly clean it and allow to dry. When the slide has become quite dry apply a thin coat of albumin from a fresh egg and again allow the slide to dry. A smooth brush is essential in getting the coat of albumin evenly placed to avoid a streaked appearance when done.

As soon as the albumin has completely dried, place the plate with its coated side uppermost, over the diagram or other copy, and trace on the slide with India ink. The width of the lines may be varied by using pens of different sizes. Colored effects may be added in the same manner except that inks made from aniline dyes (such as the common writing fluids) should be used. The pigmentation in colored India inks make them all appear black on the screen.

Mount in the usual manner after the ink has dried by placing the newly made plate face down on another clean slide and fastening together with the usual lantern slide material or with adhesive tape.

These slides are not temporary as might be supposed but may be left in the lantern for long periods of time without injury in spite of the intense heat of some lanterns. I have used this preparation for the past five years and it is now being used by others in this department.

P. E. Reid

Department of Physiology
and Pharmacology,
Northwestern University
Medical School.

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SOCIETY OF AMERICAN FORESTERS HOLDS ANNUAL MEETING

The Society of American Foresters will hold its 31st Annual Meeting at the Jung Hotel, New Orleans, Louisiana, December 29, 30 and 31, 1931. Among the speakers listed for this meeting we find the name of Mr. Stuart Moir of the Fairchild Aerial Surveys, Inc., who will present an illustrated talk on aerial photography and its role in forest mapping. Mr. Moir was engaged in blister rust control in this country from 1918 to 1923. He made a trip to Europe in 1919-1920, after which he published Department Bulletin No. 1186 entitled "White Pine Blister Rust in Western Europe".

WHITE PINE FOR PULPWOOD

The Forest Products Laboratory (Madison, Wisconsin) has investigated the suitability of white pine (Pinus strobus) for the production of easy-bleaching pulps of such strength qualities that they may be substituted for commercial hardwood soda pulp in the manufacture of book paper. The investigation included a study of the effects, on yield and quality of the resulting pulps, of changing certain pulping variables of the soda process and its modifications. Among the variables thus investigated the following received the greatest attention: ratio of chemical to wood, time of digestion, concentration of chemical in the cooking liquor, and temperature of digestion.

The relative merits of the soda process and of a modification of it, in which sulphur was added to the cooking liquor, were compared.

The results obtained indicate that both the caustic soda digestions and those employing a mixture of caustic soda and elemental sulphur yielded pulps combining strength and bleaching qualities. In general, the conditions required to produce such pulps were high ratio of chemical to wood and low concentration of chemical in the cooking liquor. The addition of elemental sulphur to the soda digestion increased the beneficial effects, both in strength and in bleaching qualities.

The combined results presented accord with various previously published results for southern yellow pines and for jack pine.

(Extract from Chemistry of Alkaline Wood Pulp Processes. III. Pulping of White Pine by the Soda and the Soda-Sulphur Processes, by Mark W. Bray, J. Stanley Martin, and L. A. Carpenter. In The Paper Trade Journal, Sept. 17, 1931.)

H.T.W.

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DR KARL MÜLLER OF MUNICH, GERMANY, WRITES ON THE MACEDONIAN PINE

Dr. Karl Müller in recent letters to Mr. Detwiler states that he is enclosing photographs of excellent stands of the Macedonian pine, Pinus peuce, immune to the blister rust, growing in the Experimental Garden in Grafrath, Germany. Dr. Müller states he will shortly send in an extract of his studies of the Macedonian pine which he made in the Balkans, and which have already been published. The extract, together with the photographs, will appear in a future number of the Blister Rust News.

R.G.P.

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A WORD TO THE WISE

Particular attention is called to my memorandum to blister rust employees dated August 1, 1927, to the effect that all reports, memoranda, maps, charts, notes, data sheets, etc., give the date of preparation, proper titles, legends, scale of map, etc., so that the questions WHAT, WHO, WHERE and WHEN, are always answered by the documents themselves.

S. B. Detwiler.

WHITE PINE FOR NATIONAL TREE URGED

In a letter to the editor of the New York Times, Robert Sterling Yard, secretary of the National Parks Association, recently urged the white pine of the eastern and middle Atlantic States to be the national tree. His letter follows:

"Referring to Secretary Wilbur's recent news release quoting a British Army officer's suggestion that the Great Sequoia of the Sierra should be declared our national tree, I hope that I shall not be thought lacking in devotion to 'the greatest and noblest of living things' by suggesting that, if there is to be a national tree it ought to be the white pine of our eastern and middle States and southeastern mountains.

"Vigorous and beautiful though the white pine is, it cannot compete, of course, in these respects with King Sequoia. It is what it was to the nation in infancy and youth that entitled it to the highest honors that a nation can pay to a tree.

"Of the 1,065,000 square miles of incomparable forest that, east of the prairies, faced the young nation clinging to eastern sea coasts, forty per cent, or 440,000 square miles, were coniferous and of these a large proportion was white pine. The soft but powerful quality of its wood, easy to saw, split and tool yet unequalled for every home-making purpose from weather-boarding and flooring to platters and spoons, made national growth at American speed and comfort possible, while its easy lumbering, hewing and sawing, and immediate popularity abroad as well as at home, gave impetus to trade, providing for many years the market vigor which has characterized our progress from colonial times.

"The high tide of the white pine era is not so far back that hundreds of thousands now living do not recall it in full detail. Millions now living sunk their jack knives daily in its close white flesh for the innumerable things that boys once made for themselves or did without. Any other wood was scarce around the 'place', which was even picket-fenced, except for the posts, in pine. Even into powerful speeding maturity, this nation was built up of white pine and prospered because of it.

"Of course we ran through it to the finish, as Americans always do. Its price rose with scarcity. Eventually it passed out of the general market, other soft woods from the south and west supplying parts of its uses; no other wood can ever fill all its uses.

"But it did not, like the passenger pigeon and other early Americans who suffered from popularity, pass into extinction. Many small groves of fine trees hid safely in the forest fastness of New England, the Adirondacks, Pennsylvania and the uplands of the Southern Appalachians, carrying on into the future nature's unbroken story.

"The white pine can no more be destroyed than the nation that it built up. Highest priced of all our lumber, it may never again figure in the market, but there are uses for which it will always be essential. One of these, not a commercial but a far higher use, is to be beautiful. It is seldom a stately tree, and rarely composed and regular of aspect, but is as independent of body and full of action as the nation it symbolizes so well. Often it flings its arms aloft as if beckoning on its fellows to a greater future. It is individual, suggesting a wide variety of activity and achievement.

"Who dares to say that the day of the white pine is past? Or even that it has come? Like the giant sequoia, the white pine is a national park tree. Both attain their greatest stands in national parks, the giant sequoia in Sequoia National Park and the white pine in the Great Smoky.

"It is honor enough, even for Giant Sequoia, to be King of Trees. Let us pay some very small part of our vast debt to white pine by pronouncing it the National Tree of America."

(Extract from "American Forests", Vol. 37, No. 6, June, 1931, p. 376.)

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ILLINOIS VISITOR AT THE WASHINGTON OFFICE

Mr. W. W. Jones, a retired farmer of Egan, Illinois, visited the Washington Office on October 23. Mr. Egan has a grove of very promising young white pine from which he makes some profit by selling individual trees to parks and home owners in his vicinity. The pines are under 15 years of age. Mr. Jones was interested particularly in knowing that the white pine blister rust had not as yet been found in Illinois. Learning that the European black currants were the most dangerous of any of the Ribes species, he planned to get rid of them on his own grounds since they were within a mile of his pines.

Mr. Jones lives in Ogle County not far from the White Pine Forest State Park. He thought this Forest Park a strikingly attractive place which should be protected from the blister rust.

R.G.P.

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NOTICE TO AGENTS ON RADIO TALKS

At the Blister Rust Conference in Connecticut a number of the agents requested that they be notified in advance of the radio talks. It is suggested that they note carefully each week in the Official Record under "Noon Network Programs" the various subjects planned to be broadcast over the radio.

R.G.P.

GEORGE WASHINGTON MEMORIAL PLANTINGS IN PENNSYLVANIA

To honor the two hundredth anniversary of the birth of George Washington in 1932, ten million trees, each one indicative of a Nation's testimonial to the Father of Our Country, are being planted throughout the United States.

A George Washington Bicentennial Plantation, which is unique as a memorial to our National Hero, was established recently in the appropriately named town of Liberty. High School students at Liberty, Tioga County, Pennsylvania, under the direction of District Forester Paul H. Mulford and Forest Inspector C. F. Lamberson, set out the plantation of trees on land owned by the borough. The species used were red pine, white pine and blue spruce.

* * *

One of the most unique Washington Memorial Plantations established so far in Pennsylvania was made on Columbus Day, October 12, under the direction of District Forester T. C. Harbeson of the Penn Forest District. In memory of the year of his birth 1,732 trees in the letters W M P (Washington Memorial Planting), were outlined on a hillside facing Highway Route #53, a short distance from Milroy. The letters are 85 feet in length and 60 feet in width. In addition to laying out the letters, 13 rows of white and red pine were planted alternately at the bottom of the letters, representing a row of trees for each of the thirteen original colonies. ****.

(Extract from the Service Letter of the Pa. Dept. of Forests and Waters, Series 2, No. 437, Nov. 5, 1931.)

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WHITE PINE SUCCEEDS WELL ON PLAINFIELD SAND IN WAUSHARA COUNTY, WISCONSIN

A 55 year old white pine plantation has been found in Wisconsin in Waushara County. The seedlings, which today are trees ranging from 10" to 17" D.B.H., were taken from the woods and planted by Mr. Walter Ware, a Yankee who came from New Hampshire before the Civil War. Spacing in this plantation set out in 1876 varies from $2\frac{1}{2} \times 2\frac{1}{2}$ ft. to 6×6 ft. Those planted $2\frac{1}{2}$ feet apart are in a crowded condition and perhaps 50% of the trees are suppressed. The trees planted 6×6 ft. have made good growth. Mr. Morris of the Land Economic Inventory has recorded the growth made by one former member of the plantation which had been upturned by the wind. The growth per year of this tree taken at random is as follows, (beginning from the ground); 3", 5", 16", 26", 13", 11", 15", 11", 25", 33", 18", 14", 22", 27", etc.

Where this plantation is established the soil is classified as Plainfield sand. Needless to say that this is extremely light soil as anyone who is farming it can tell you.

Blister rust? No, not yet. Ribes? Very few. We'll go after 'em next spring.

T. F. Kouba, Wis.

O F F I C E C O M M E N T

SUBSISTENCE ALLOWANCES

In order to reduce expenditures and conserve appropriations, effective November 15, 1931, and continuing until further notice, the maximum per diem allowance payable in the Department in lieu of subsistence expenses will be \$5.00 and the maximum allowance for actual expenses of subsistence will be \$6.00 per diem. These maximum rates will apply to all officers and employees of the Department when in a travel status in the continental United States.

For official travel beyond the limits of the continental United States a per diem of not to exceed \$6.00 in lieu of subsistence expenses or actual subsistence expenses not to exceed an average of \$7.00 per diem may be allowed.

Memorandum No. 621
November 7, 1931.

Arthur M. Hyde
Secretary.

P U B L I C A T I O N S

Blister Rust

Anonymous - "Blister Rust is Spreading in the East". In the Plant Disease Reporter, Vol. XV, No. 13, No. 1, 1931, p. 144.

Putnam, H. N. - "Spread and Development of White Pine Blister Rust in the Inland Empire". In Northwest Science, 5:53-58, September, 1931.

Quick, W. J. - "White Pine Blister Rust Found in Maryland". In News Letter of the Maryland State Dept. of Forestry, Vol. 3, No. 10, Oct., 1931.

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THE ADMINISTRATIVE BULLETIN

The Washington Office has a supply of the second number of the Administrative Bulletin available to any of our agents who did not secure their copy at the conference at Lakeville, Connecticut. It will be remembered that Mr. Rehlaender brought a large supply of this Bulletin to the conference for distribution.

R.G.P.

A M O N G O U R S E L V E S

Mr. G. B. Posey returned to Washington the latter part of October from an extended field trip in the West.

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Mr. W. G. Guernsey of the Western Office made a visit to the Washington Office the latter part of October to confer with officials concerning blister rust control work.

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Mr. George E. Bishop received an appointment as Collaborator in Michigan October 22, with headquarters at Marquette.

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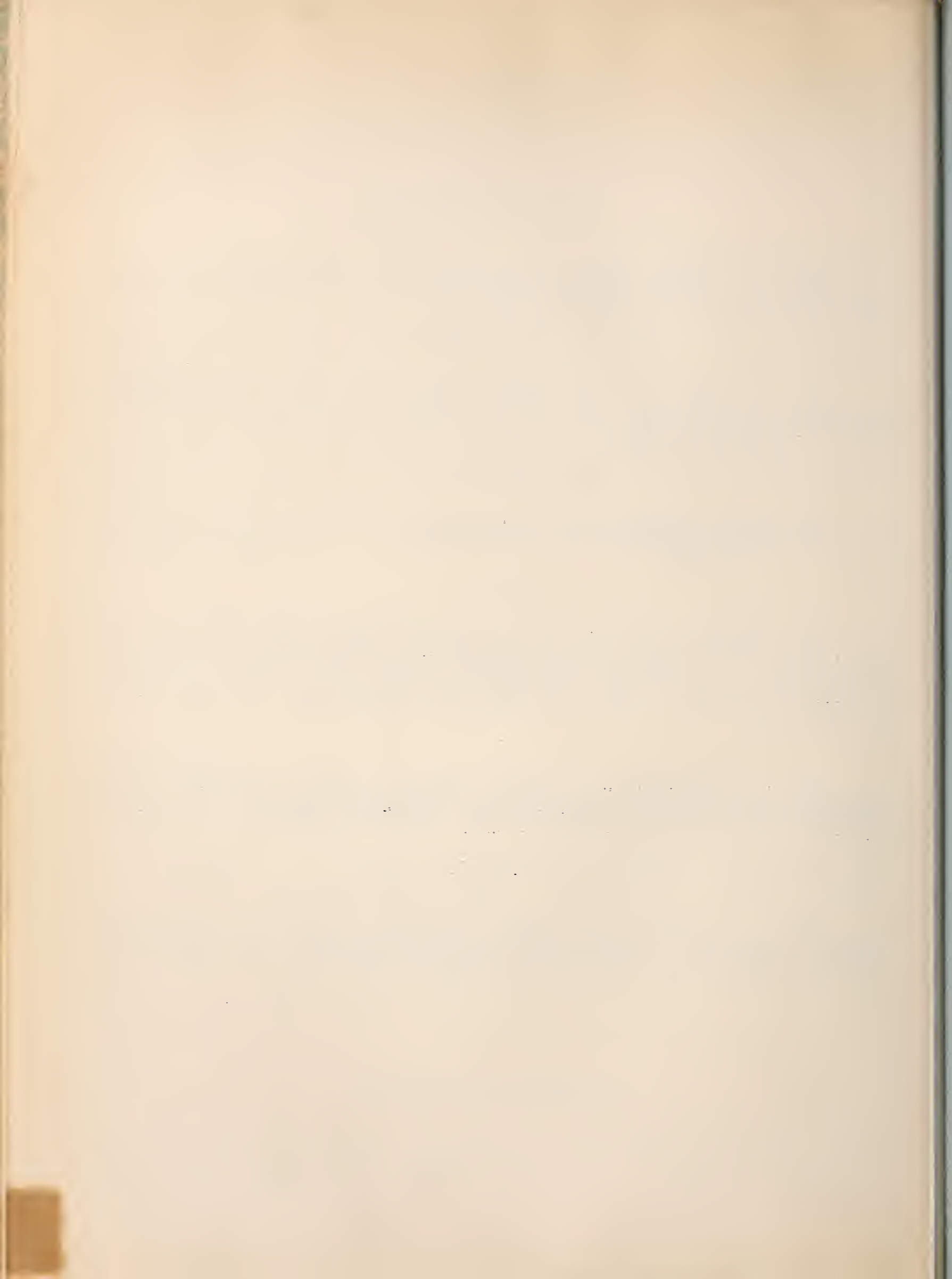
Mr. Leyden N. Ericksen, now with the National Lumber Manufacturers Association in Washington, D. C., visited this office recently to renew old acquaintances. Mr. Ericksen was engaged in blister rust control in Minnesota during the summer of 1919. He asked particularly about the condition in Jay Cooke Park.

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Mr. H. E. Swanson of the Western Office arrived in Washington about the middle of November for the purpose of compiling, analyzing, and preparing blister rust control field data under the direction of Mr. G. B. Posey.

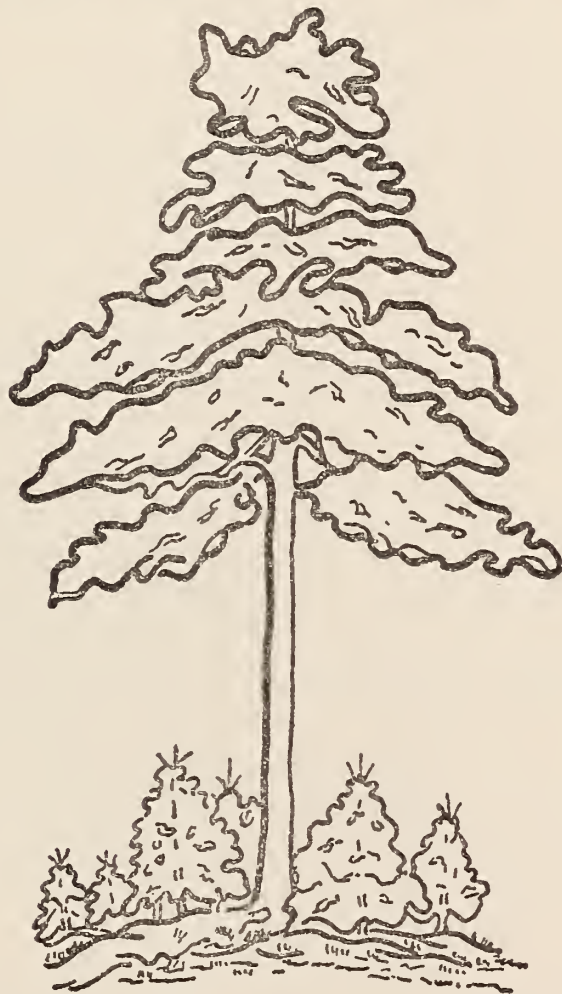
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Mr. L. N. Goodding, in charge of blister rust work in Oregon, has recently published an article on "Didymosphaeria oregonensis, A New Canker Organism on Alder" in Phytopathology for September, 1931, Vol. XXI, No. 9.





THE BLISTER RUST NEWS



December, 1931.

Volume XV

Number 12

U. S. DEPARTMENT of AGRICULTURE
BUREAU of PLANT INDUSTRY
DIVISION of BLISTER RUST CONTROL

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!-!
 Blister
 Rusters
 look and see
 This quaint lit-
 tle form of a Christ-
 mas Tree, made of wishes
 & thoughts sincere, For suc-
 cess and health through the coming
 year, Sent by Washington Newsies far
 away, To wish you a Merry Christ-
 mas day

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HAPPY NEW YEAR!



GLEANINGS FROM THE LAKEVILLE CONFERENCE

White pine can certainly take its place among the "Blue Ribbon" trees of State Forester Hawes of Connecticut.

Dr. Clinton anticipates "it is to these younger and more isolated chestnut seedlings that I look for the survival of the chestnut, because of the lessening opportunity for infection and the possibility that the blight itself may gradually lose its virulence as a parasite."

Mr. Fivaz says "the purpose of all pine land classification in our control work has been and still is to reduce to a minimum commensurate with economic safety, the area from which Ribes must be eradicated and hence the cost of doing this work."

Dr. Spaulding cautions "don't sacrifice thoroughness beyond the point where you feel confident that extreme outbreak conditions are safely allowed for."

Mr. Newman reported that at least one lumberman who visited the Littleton, New Hampshire demonstration area still believes that "white pine is a good bet." This lumberman claims that he receives "\$125 per M for his manufactured product; namely, custom-sawed boards for interior finish."

Mr. Frost commenting on his large scale blister rust exhibits says "the best and only worthwhile way to make a lasting impression on the minds of the white pine interested public, is to let them see, feel, and handle both host plants in as many stages of developmentand show them infected pine specimens from the transplant stage to saw-log size showing dead and dying trees with branch and trunk cankers of all ages."

Mr. Pierce believes "we should not stress the amount of damage caused by the rust as much as we should emphasize the feasibility and value of protection. Healthy pine is our aim and goal."

Mr. Reynolds advises "Proper public relations begin by religious adherence to the true facts in published statements."

Mr. Hurford in his paper on the black currant eradication problem project in Rhode Island comments that in dealing with the public in this project the policy has been "firmness with due consideration to the property owner's rights."

From all accounts "AVOID THE RUT" seemed to be the keynote and footnote of the 1931 conference.

C. C. Perry, Mass.

FIRING THE BOILER

The recent meeting of the blister rust field personnel in the Lake States, held at Milwaukee, Wisconsin, in my opinion did more to add fuel to blister rust control in the Mid-West than any other factor since my association with the work. Having become acquainted enroute to the Eastern Conference this fall we agents were prepared to discuss our problems amongst ourselves with perfect frankness - there was no "inferiority complex."

The program of subjects to be discussed was definitely outlined beforehand by our leader, "Hank" Putman, and we lost no time in setting about to solve the 24 problems enumerated. The discussion became heated, fired with zeal, so much so, that it was in danger of getting out of control but for its "governor", our friend Mr. H. Basil Wales of the Forest Service, who contributed many excellent ideas and kept us "on the ground."

The original purpose of the meeting was to coordinate our problems, formulate logical methods of handling them, and solve them together. We soon discovered that four days served not to make things easier for us but make us realize that we had much more work to do than we had even been aware of. We decided upon what was needed in the Lake States and how to go after it, but the burden of working up the data was obviously left untouched, to be worked out "individually together" this winter. I feel that the meeting pointed out our duties to each of us, showed us the need for good work, and fired us with an ambition to do this work. The Blister Rust Boiler is steamed up, we have a definite goal, and we're going ahead. Watch us.

John K. Kroeber, Mich.

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AN ACCOMPLISHED LINGUIST A NECESSITY IN BLACK CURRANT PROJECT

I was in complete accord with State Leader Hurford of Rhode Island, when he said at the recent conference in Lakeville, Connecticut, "one of our crew men speaks French, another Italian, and I might suggest that it is worthwhile to hire labor with consideration of the type of people you are dealing with."

In my district we were fortunate this year in having a State Inspector who could talk and understand French, Polish, and some German. On account of his ability to fully explain the situation to these people we encountered very little difficulty in securing the removal of their bushes. The inspector's greatest trouble was in meeting with vicious dogs, but his high top boots saved him from any serious damage. We expected more friction with the Polish people, but owing to the efficiency of Inspector Koslosky, we met with very little opposition. No claims for compensation have come in from any of the people contacted by this inspector. I know that I would not have been able to report such complete cooperation had our accomplished linguist not been on the job.

Nov. 27.

R. E. Wheeler, Mass.

FIELD EXAMINATIONS FOR TEMPORARY FIELD MEN
EMPLOYED IN MASSACHUSETTS

During the latter part of August, a set of simple questions relating to blister rust control in Massachusetts was prepared, and without previous notice the field men required to submit to a written examination the field. In most instances the men were merely notified by the agent to meet him at an appointed hour and place, and when they arrived they were instructed to sit down and write the answers to the series of questions. Taken completely unawares, the men were suprised, some were disturbed, and others rather unnerved. The purposes of this examination were three-fold as follows: (1) to assist in obtaining a more definite rating to be used for or against a man in the matter of future employmen' (2) to ascertain if there were any errors or misstatements in the information that the men were imparting to the public; and (3) to determine whether or not the field manuals that have been furnished for a number of years are of any real service to the men.

The replies received to the simple questions were both interesting, amusing, and in a few instances rather disappointing. The results pointed out emphatically that it is desirable to subject the field personnel to such an examination from time to time in order to discover any defects or misunderstandings. In some instances we were surprised to find that on some vital point connected with the field work, the men either had the wrong idea or a confused idea. If such was the case, these particular field men were not competent to deal with pine owners.

One appointee showed that he had at least mastered some of his instructions - by the reply - "The blister rust field men are to be courteous at all times." Another employee, one of some years' experience, had a lapse in his spelling when he insisted on repeatedly referring to spores as "spoors". Especial confusion prevailed regarding the interpretation of the rather complicated State blister rust law and regulations. In this connection the Commissioner of Agriculture, the Director of the Division of Plant Pest Control, the State Blister Rust Control Leader, and the District Blister Rust Control Agent were all referred to as the responsible officer designated in the statutes. Needles of a white pine were referred to by one "botanist" as "five-petals" and one "medic" called a blister rust canker a "cancer". An acre of land contained any number of square feet, rather than the accepted 43,560, and a mile was more or less than the standard 5,280 ft. The best paper was written by a man whose education ended with the grade school, while at least one of the poorest papers came from the pencil of a first year student in one of our leading medical schools. The men seemed to be unusually adept in arithmetic. A simple problem in figuring the cost of a particular eradication project including the cost per acre and the number of Ribes per acre, was computed correctly by each and every employee taking the examination.

At any rate, we intend to make such an examination an accepted administrative feature in the future. We feel that as far as possible the district agent should make all the more important contacts with the public and that the temporary field men should be assigned exclusively to the actual mechanics of control work.

November 25, 1931.

C. C. Perry, Mass.

Note:- Good idea. This is "avoiding the rut" - developing the temporary field men and putting new life and interest in the work of these men.

J. F. Martin.

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WATER WORKS ASSOCIATION OFFICIAL INTERESTED
IN CONTROLLING THE BLISTER RUST

In a supplement to the Journal of the American Water Works Association, October, 1931, there is an article on the blister rust and its control which should be of interest to our men. It is therefore quoted below:

"A. V. Ruggles, Assistant to Secretary, A.W.W.A., while on vacation this summer stopped at a roadside exhibit near Littleton, N. H., arranged by the New Hampshire State Forestry Commission to show the damage done to white pines by 'blister rust'. As many water works superintendents know, this disease gets to the pines from currant and gooseberry bushes, will destroy the trees unless action is taken, is hard to eradicate and even difficult to detect especially when confined to the top branches. It has been found by the New Hampshire Forestry Commission that some water works superintendents have had blister rust get into the white pines on their watersheds without being aware of its presence. L. E. Newman, State Agent in Charge, Forestry Commission of New Hampshire, urgently recommends that superintendents with white pines on their drainage areas obtain literature descriptive of this disease and have their white pines examined by experts from their own State Forestry Commission who are glad to come and make an inspection.

"The descriptive literature can be obtained from the Division of Blister Rust Control, United States Department of Agriculture, Washington, D. C., where S. B. Detwiler is Pathologist in charge; A. H. Richardson, Department of Lands and Forests, Province of Ontario, Toronto, Ont., Canada, and from the State Foresters of numerous states from the Atlantic to the Pacific where blister rust has been prevalent for some twenty-five years.

"Secretary Little says that for over twenty-five years the City of Rochester has been fighting this pest on the watersheds of the City Water Supply by cutting off the parts of the trees attacked and burning them, and by destroying the wild currant and gooseberry bushes near enough to do harm, thus indicating that eternal vigilance is the price of safety."

L. E. N.

INITIAL BLISTER RUST CONTROL WORK PERFORMED BY
BOY SCOUTS IN MUSKEGON COUNTY, MICHIGAN

During July and the greater part of August I was doing preeradication work at Boy Scout camps in southwestern Michigan. Since this was the first project of its kind to be attempted in the State, I was left to my own judgement in finding the most satisfactory method of doing the work. Lectures had been given at the various camps in June by R. I. Thompson. We also had distributed bulletins where they could be read by all Scouts interested. Consequently when we began the survey in July, we found that most of the Scout Officers and many of the Scouts had some knowledge of blister rust and its control.

The first area to be surveyed was at Crystal Lake. Three of the five Owasippe Scout Camps were on the shores of this lake. As well as having to map this land, it was necessary to acquaint as many Boy Scouts as possible with blister rust and its control. Also, we were to use Scout crews for pulling Ribes whenever convenient. In order to do all of this without loss of time, I planned my days so I could spend part of each day mapping, and part in the field with a crew of Scouts. This proved to be quite a satisfactory arrangement. I would locate an area infested with Ribes, and on the same day would have a crew removing the bushes. While the boys pulled Ribes, I explained to them what blister rust was and made them understand the importance of the work they were doing. There were, however, several difficulties experienced in using Boy Scouts in eradication work. First the boys could not always be depended upon to report for duty since the work was not compulsory; second, each boy was only required to spend two hours in the field with me, and during that time I was scarcely able to teach him how to recognize a Ribes when he saw one; and third, since "Boys will be Boys", it was necessary for me to keep each Scout interested in his work if anything was to be accomplished.

The efficiency of a Scout crew is low in comparison to that of the usual Ribes eradication crew. In order to get bushes removed, it was necessary for me to point out the Ribes as we encountered them. I would walk along the strip to be cleared (did not use trail paper) and with a stick would point out the bushes. Once a Scout had his eyes on a bush, it was only a matter of seconds before that bush was fastened in a nearby tree. I taught each group the wellknown trick of reaching under the dead leaves and humus in order to escape the sharp spines on gooseberry stems. I even went so far as to have the boys use their feet in loosening bushes. This was very helpful because it was practically impossible to have each boy supplied with a pair of leather gloves. We were fortunate in encountering sandy soil at every camp for the bushes could be removed with little or no digging.

To keep my crews' attention on pulling Ribes, I used several stunts. The most successful was to give each crew the impression that the number of bushes pulled by each individual determined his ability and the amount

of work he had done. When the Ribes were quite scattered, I kept the boys from wandering, both physically and mentally, by teaching them the names of the different pines and other common trees I saw.

I believe that Ribes eradication work at Boy Scout camps is very practical if a foreman receives good cooperation. Without good cooperation too much time is lost. An example of the active interest shown by the Evanston Scouts is the fact that forty-five boys, divided into groups, each of which was under an officer's charge, spent an afternoon scouring the woods and removed approximately twenty-three hundred gooseberries. This afternoon's good work did considerable towards completing the Evanston area and before I left, the entire three hundred and sixty acres had been covered by crews of Scouts.

Carl E. Burgtorf, Mich.

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ONE PREDICTION THAT WENT WRONG

In 1924 when initial control work was under way in the town of Norwell, Massachusetts, one very definite area was eliminated from consideration because the advanced pine reproduction was so overtopped that it seemed impossible that the pines would ever get through the hardwood overstory. In 1931, seven years later, this town was reexamined for Ribes and one of the first reports received from the field men was to the effect that infection was unusually abundant in a certain area. Upon investigation it developed that the area in question was the lot that had been eliminated in 1924. Pines of all sizes were coming through nicely except for the infection, and there is no doubt as to what the next stand will be. On account of these changed conditions, crew work was at once arranged for with the owner and many wild Ribes found and destroyed.

On November 3, with the assistance of Mr. Hodgkins, a preliminary study of the infection on the area was undertaken. Cankers were found that originated every year from 1923 to 1930. If this lot had been protected in 1924, infections subsequent to that year would have been prevented. This incident, perhaps trivial because of the size of the lot, nevertheless proves conclusively to me that we should be cautious in endeavoring to predict what future stands will be. I believe that if infection is present, it will probably be erring on the side of wisdom to protect an area.

Nov. 17

E. M. Brockway, Mass.

PINES AT "HEARTS CONTENT" BEING PROTECTED FROM BLISTER RUST

Hearts Content is the name given a tract of virgin timber, comprising approximately one hundred acres, in the Allegheny National Forest. It is a mixed stand of white pine, hemlock and hardwoods; many of the trees being four feet in diameter and reaching a height of over a hundred feet. The Forest Service desires to maintain this area as a monument to the virgin timber which once abounded in this region. In order to safeguard these white pines from blister rust, this stand and adequate protection zones were initially cleared of Ribes during the spring of 1929. This work was performed by Forest Service employees working under the direction of a trained foreman furnished by the Division of Blister Rust Control, Bureau of Plant Industry.

**** As complete protection from blister rust was desired, it was deemed advisable to reexamine the entire area for Ribes during the spring of 1931. This work was begun April 30, 1931, and terminated May 14th. The Division of Blister Rust Control cooperated by furnishing the services of Mr. L. W. Hodgkins, who supervised the work of a crew of 7-8 laborers supplied by the Forest Service.

In 1929, 23,028 Ribes were pulled, including 8 cultivated bushes. In 1931, 13,321 Ribes were pulled. Four of these were cultivated red currants, the remainder being the roundleaf gooseberry (Ribes rotundifolium Michx.). 48.9% of the control area was covered by the scout method. This required but 4.3% of the total man hours for the entire project. The remainder of the area was covered by the crew method.

Ribes come into leaf before other vegetation and are easy to locate early in the season. Therefore, the work was started on April 30th. However, it was soon determined that many bushes were missed in the sections worked during the first few days, partly due to the inexperience of the crew but chiefly because the plants did not all come into leaf at the same time. Ribes in "frost pockets" or more or less protected from the sun were slower in coming into leaf. ****.

About the same amount of time (493 1/4 hours) was consumed in examining the area for Ribes during 1931 as in 1929. ****. Only 58% as many Ribes were found during 1931 as were initially eradicated on the tract in 1929, and 75% of all the Ribes pulled in 1931 were under a foot in height. Undoubtedly, most of these small plants were seedlings growth that originated since 1929. Also, most of the bushes a foot or more in height were too small in 1929 to be readily visible. It is, therefore, apparent that the crew was successful in eradicating most of the larger bushes on the area in 1929. A thorough eradication of all small Ribes at that time would have been impracticable because, even with the most painstaking effort, only a small portion of them could have been located and the cost of such work would be prohibitive. Usually the mortality of such seedling growth is very high.

10,965 Ribes, or 82.3% of all the bushes eradicated in 1931, were in the slash areas in Blocks 7 and 8. Over 75%, or 8,272, of these 10,965 Ribes were under a foot in height. On account of the large Ribes factor, these two blocks constitute the chief source of danger from blister rust infection on the Hearts Content tract. Ecological studies have shown that in such cut-over areas, the greatest amount of Ribes regrowth usually occurs during the first three years after logging. ****.

In order to maintain as near complete control of the disease as possible, the most likely Ribes sites in the Hearts Content area will probably have to be reworked within two or three years. The restocking of Ribes in Blocks 5, 6, 7, and 8 constitutes the chief blister rust hazard to the pines. These areas should be inspected each year during May by a man experienced in control work to determine when additional control measures should be applied.

October 31, 1931.

K. K. Stimson,
(Extract by R.G.P.)

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MOOSE VERSUS RIBES ERADICATION

New York State have their poisonous snakes, New Hampshire have their bear, Maine has --- that is the story.

During the latter part of September while scouting over certain areas to be worked, in the town of Sidney I noticed in a meadow a number of moose tracks. I notified the foreman of the crew of my discovery. His reply was, Huh! Moose, what are you trying to do, kid someone? About one week later he was to recall the warning. The crew were industriously removing currants and gooseberries when someone in the crew cried, LOOK! Lo, there was Papa moose, Mamma moose and baby moose. Papa moose tossed his antlered head and snorted. To the northeast of the meadow was a convenient cordwood pile. No one was killed in the rush for the woodpile. But it is safe to say that all sprint records were broken for the rubber boot and gum rubber shod class. Hats were lost, picks were left and high jump records broken for the top of that wood pile. The question still remains of who was the last or first to reach that goal. The moose surveyed the work and evidently were not in favor of blister rust control.

Foreman McCormack claims he will face irate owners, etc., but draws the line on the inclusion of moose in the prescribed itinerary of his work.

J. M. White, Maine.

MR. M. - MAY HIS TRIBE INCREASE

Mr. M. of Fitchburg had to part with two cultivated black currants this past summer, and he didn't like the idea. In fact, he liked it so little that he demanded payment of five dollars for each bush. After the State inspector had called on Mr. M. and destroyed the bushes, the agent called on him in an attempt to persuade him to withdraw the claim for reimbursement. Mr. M. and the agent spent some time talking about the disease and then retired to the garden to look over some other cultivated currants and gooseberries. These were found to be infected. In one corner of the yard were two, scraggy, little white pines. Mr. M. was told that these pines were in great danger of being killed by the rust. Immediately his attitude changed and he asked that all of his other cultivated Ribes be destroyed.

This intense interest in trees was accounted for in further conversation. It seems that shortly after Mr. M. was married, thirty or forty years ago, he subscribed to the magazine printed in the Central States. In it he saw an offer of five trees. He sent for them and made preparations to cart them from the freight or express office to his home. He still gets a laugh when he tells that these five trees arrived in an envelope. He and his wife considered it a good joke, but, nevertheless, Mrs. M. insisted that he plant them. Today, three of those trees are still growing and have a diameter of about five inches D. B. H. Two of the original trees he had to cut as they were too near his property line and were shading fruit trees in a neighbor's yard.

In looking over the trees the agent found a seedling from one of them which was coming up in some tall grass. Mr. M. cuts the grass with a scythe and had cut off the top of this seedling. He became greatly excited over the fact that his large trees were producing young ones. A further search revealed ten or fifteen of these seedlings in a small area. These seedlings will be transplanted and given more care. Now everything is serene and there will be no claim for compensation.

November 16, 1931

Wm. Clave, Mass.

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CONTINUED WARFARE OR AN ARMISTICE?

Shall we continue our relentless war on old "General" Ribes, dislodge him root and branch, hang him to the nearby tree, so that his dried and withered remains may be scattered to the four winds; or shall we adopt the new and more humane plan and allow a portion of his army to remain, if it retreats to the "Tall Timbers"?

W. T. Roop, Mass.

BLISTER RUST FOUND LATE IN THE SEASON

On the 28th of October while at Salisbury, Connecticut, working with Mr. Adams and looking over an area on which the Ribes had been eradicated earlier in the season, we found a gooseberry bush, R. hirtellum, which had fallen to the ground, taken root and produced a fair-sized cluster of leaves. Upon examining these leaves we found blister rust on them, both uredinial and telial stages. The bush was 2 feet high at the time it was pulled. The ground was swampy and wet.

* * *

On November 17th while out with Agent Brockway looking over some of the work of the past season, we visited a location in East Bridgewater, Massachusetts, where hundreds of black currants, R. americanum, had been pulled earlier in the season. There were many seedlings which had come in since the eradication work had been carried on, and some of these were of considerable size. We examined the leaves and found that most of them were infected with blister rust in the uredo and telial stages. This information, due to the lateness of the season for healthy leaves and the fact that blister rust was found in both stages, seems to me worthy of mention.

L. W. Hodgkins, Mass.

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LATE TELIAL STAGE FOUND IN BOURNE, MASSACHUSETTS

On November 5 while scouting for black currants in the village of Sagamore on the Cape Cod Canal, I found two plants of Ribes nigrum. These bushes were still in partial leaf and on one leaf an abundance of telial columns still persisted in apparently thrifty condition. This is certainly a late record, at least for Massachusetts.

E. M. Brockway, Mass.

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RITTER ADDRESSES LARGE MEETING AT TAYLORS FALLS, MINNESOTA

Mr. Roberts accompanied me to Taylors Falls, Minnesota, last Friday night. I showed my motion pictures to about two-hundred and fifty people. Afterwards the local Game and Fish Club invited Bob and me to a dandy lunch. Moral: Life is not all work!

Dec. 1

L. B. Ritter, Minnesota.

MASSACHUSETTS COMES THROUGH 100%

State Leader Perry has obtained interesting items from each of his District leaders for the "News" for December. Let's begin the new year right with every "Blister Rust" making it a practice to follow the advice given by Mr. McIntyre on several occasions, namely, "Make a written note of interesting things as they occur during the day's work". These notes can be kept for use in writing items for the "News" and for use in talks. Some of them will have other applications of value to the agent in the conduct of his work. If each one contributes several items we can be more selective and make the "News" more helpful and interesting. We want it to be a real factor in helping the field men, so send in your ideas, suggestions and criticisms along with your news items, and your editor will do his best to use these in making the "News" a better and more effective medium for keeping the field men "out of the rut."

J. F. Martin

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ADDITIONAL NOTES ON THE STRANGE DISEASE FOUND
ON WHITE PINE IN UPPER MICHIGAN

In the October News Letter we ran an article by Mr. H. N. Putnam on "Strange Disease Found on White Pines in Upper Michigan". Dr. G. G. Hahn, to whom Mr. Putnam sent specimens of this disease, writes in letter of November 11th to Mr. Putnam concerning his examination of the specimens:

"The specimens of diseased white pine (collected near Ishpeming, Michigan) showing abundant resin flow have been examined. The only fungus which I have identified is the Zythia resinae (Ehrenb.) Karst. This fungus is commonly found in the normal exudation of resin on conifers. So far as we know it does not produce disease. A description of the fungus may be obtained by referring to 'Mycological Notes' by L. O. Overholts, Torrey Botanic Club 49: 163-164, July 8, 1922.

"Just what has brought about the resin flow I cannot say. Apparently we are up against a physiological problem here, which someone needs to investigate. One sees trees of various species exhibiting this same type of thing. We are concerned with this problem in our Douglas fir canker investigation. Histologically, of course, we will determine tissue malformations, but whether we will get at the actual cause of these is rather difficult to say.

"I have sent the cankered specimens of white pine collected at Port Sanilac, Michigan, to the Washington Office for their diagnosis as to whether the cankers contain mycelium of Cronartium ribicola. Microscopically the cankers do not look to me like blister rust."

G. G. H.

COOPERATION IN SMALL DOSES COUNTS

Cooperation in the general eradication of Ribes nigrum in western Massachusetts has as a whole been very encouraging this past season. While rechecking our card files and correspondence in connection with the summarization of the year's work, we find that a number of towns supplied us with data worthy of mentioning in the NEWS.

For instance, in the town of Orange, where we anticipated some opposition based principally upon various stories picked up here and there, our anticipation of trouble proved to be almost entirely unwarranted. A brief summary of the work accomplished in this particular town tells the story. Ten patches of Ribes nigrum totalling 68 bushes were located in the town. Of this number 55 were destroyed by the owners between the time of initial interview and the time set for a check up and actual eradication. The owners of the 55 bushes, with one exception, mailed in the usual postal card advising us that their bushes had been properly destroyed. In the one case a letter was sent in, in place of the postal card. The letter read as follows:

"In response to your request, our black currant bushes have been pulled up. Next, I asked the cooperation of our town manager to have the bushes taken to the dump and burned; a truck came for them this forenoon. I was notified of your request August 5 and today, August 8 they are all removed from our property."

This owner possessed and destroyed 25 of the 55 bushes eradicated by owners. Six other persons eradicated the other 30 bushes.

We might add that previous to starting the black currant campaign your agent called upon and solicited the cooperation of town officials. In this instance the town manager proved most helpful by offering free trucking service for the disposal of cultivated Ribes. He also furnished men to reexamine for wild Ribes all town property, including seven cemeteries and the water supply reservation where considerable white pine has been planted. In this latter project alone 350 acres were covered. This still-hunt for wild Ribes in quiet areas produced a mere 41 bushes.

November 16, 1931

G. S. Doore, Massachusetts

LAKE STATES HOLD BLISTER RUST MEETING

The first meeting of the Lake States Blister Rust Control personnel convened in Milwaukee, Wisconsin, on November 18-21, 1931. Those present for a part or all of the meeting were H. Basil Wales, Assistant Regional Forester of Region 9 of the United States Forest Service; E. C. Mandenberg, Chief of the Division of Orchard and Nursery Inspection of Michigan; E. L. Chambers, State Entomologist of Wisconsin; and members of the permanent blister rust personnel from each State, John K. Kroeber and Robert I. Thompson of Michigan, Lawrence B. Ritter of Minnesota, and T. F. Kouba of Wisconsin. H. N. Putnam who is in charge of the Federal blister rust field work in the Lake States was Chairman of the meeting.

The purpose of this meeting was to promote closer cooperation between the Lake States, and to offer an opportunity for the representatives of each of these States to discuss and try to solve the problems which were common to those present. An effort was made to attain a certain uniformity in the plan of blister rust control work in these States so that the trend of ideas of the blister rust agents would progress in the same direction. Some of the more important phases of the work emphasized were:

A preeradication survey, the township maps to be used with their corresponding data, and the county maps with their data. Suitable legends to be used on these maps, uniform for all States, were decided upon.

Cultivated black currant eradication was stressed. Michigan expects to conduct black currant eradication in Delta and Alpine Counties in 1932. Minnesota may begin the same work in one or more counties and Wisconsin intends to carry on black currant eradication in Vilas County.

Another phase of the work discussed was cooperation with the United States Forest Service in Ribes eradication on the Chippewa National Forest, Minnesota, and the Ottawa National Forest, Michigan. A preeradication survey has been made in each of these forests during the past summer.

As a part of the educational work discussed, was the possibility of the production of a moving picture film to be made in cooperation with the United States Forest Service depicting forest conservation with special emphasis on tree planting, fire prevention, and protection from insects and diseases. The aim of this film would be to include white pine blister rust control as a preventive measure. The forest and its importance for recreation, as well as for its financial value, would be depicted.

At the conclusion of the meeting each State Leader submitted to Mr. Putnam a plan of work for the next fiscal year, together with a tentative budget possible from his State. Marquette, Michigan, was considered as a meeting place for the Lake States Conference in 1932.

Nov. 27, 1931.

T. F. Kouba, Wisconsin.

AGENT WHEELER OF MASSACHUSETTS REPORTS A SUCCESSFUL
SEASON ON BLACK CURRANT ERADICATION

Our black currant eradication campaign in District VIII, Massachusetts, started in full blast about July first. In the country districts where areas had been eliminated in our regular control program on account of the absence of local white pine, it was necessary to go over these sections which included abandoned roads and farms. A great many "blacks" were found in these locations. In the residential parts of cities and towns it was surprising the number of blacks found. The population of a good many of the cities and towns include a goodly number of foreigners, and we found most of the Ribes at the homes of these people.

One German family was very much upset and wrote to their Congressman for protection. The representative immediately wrote us for information. This was given personally with the helpful result that he wrote his constituent in effect, that he could be of no service and the plants must come out. The planting contained fifty first-class bushes, heavily laden with fruit. The owner picked the berries and afterwards destroyed the bushes.

It seemed as though all bushes bore heavily this year. It was our policy to give the owner the opportunity to gather the fruit before removing the bushes. In cases where the bushes were left owing to the fruit, a card addressed to the agent was left with the owner with the understanding or hope that he would dispose of the plants after the crop was picked, then sign and mail the franked card to the agent. It appears that 98% of these notification cards were returned properly filled out. A recheck of such locations revealed that there had been no evasion or misrepresentation and in every case the work had been properly done.

As a whole, we had splendid cooperation. In the cities of Holyoke and Springfield for example, the city departments furnished trucks to carry away the bushes from the residential districts. The following is our season's summary of black currant eradication.

No. places inspected	67,983	No. patches found	390
No. bushes removed by owners	1,609	No. bushes removed by State crew	3,959

We are very glad that we have eliminated the black currant menace from our district; there are at least 390 fewer chances for the establishment of centers of infection in this section of Massachusetts.

November 23, 1931.

R. E. Wheeler, Mass.

PROGRESS REPORT ON PRUNING PINES FOR THE BLISTER RUST

Agent D. S. Curtis of Maine has recently sent in a report (which I term one of progress on the experiment of Mr. Kimball Atwood of Paris, Maine, and New York City, in pruning his pine.) Mr. Curtis first reported on this work in the January and February, 1926, issues of the Blister Rust News, pages 14 and 34.

A 15 acre plantation of about 15,000 white pine was made in 1915 at Andover in Oxford County, Maine. Wild gooseberries were abundant at the time of planting and were present in old stone walls and rock heaps. The blister rust first appeared in 1919. Ribes eradication unfortunately was delayed until 1924 and 1925. By that time only 10,000 trees were living, the balance having died, partly from blister rust. Of the 10,000 living in 1924, nearly 25% were infected, 15% on the trunk and 10% on the branches. These latter, the owner thought worth trying to save. The first pruning took place in 1924 and 1925, the second in 1931.

Now as to the results. Is the owner going to secure a stand of trees, or rather a small forest, as a result of the Ribes eradication and pine pruning? Mr. Curtis reports that there are now (December 1, 1931) 5,987 trees remaining in the 16-year old plantation. There are a few openings, but on the whole there is a fairly closed stand, the white pines ranging in height from 10 to 20 feet, the average being 15. In diameter the trees range from 2 to 6 inches, the average being about 4. The first cost of pruning in 1924 and 1925 was \$25.00, the second cost in 1931 was \$134.00, including the cost of removing the trees with trunk cankers. The pruning in 1931 had to be done before they could eradicate the Ribes successfully as the latter were growing under the branches.

Ribes eradication in 1924-25 removed 9,900 bushes.

" " " 1931 " 883 "

Curtis sums up the situation: "It is my opinion that the Ribes eradication has successfully controlled the rust, but we may and probably have missed a few limb infections above where we pruned." As an experiment this season we cut out about 25 trunk cankers from the same number of trees to watch the results.

D. S. Curtis and R. G. Pierce.

SCOUTING ON CAPE COD INDICATES POSSIBLE NEED
FOR CONTROL WORK

A decision having been made to include the entire State area in the black currant eradication project in Massachusetts, location work on Cape Cod was started immediately following the annual conference. In connection with this work an effort will be made to collect additional data relative to pine location, especially the location of plantations.

The first day devoted to the work was productive of information that will be of value. On one large estate a 1926 infection was found and the entire property was scouted in company with the Superintendent. There are no cultivated Ribes on this property or in the surroundings, so that wild Ribes are undoubtedly responsible for the infection. Arrangements were, therefore, immediately made with the Superintendent to carry on control work in the spring of 1932. In 1931 a planting of 7,000 white pines was made on this estate and according to the Superintendent that number represents a very small percentage of the pines that have been planted heretofore. If every day turns up such areas as this one, we may be obliged to transfer operations entirely to Cape Cod another year, to keep up with the requests for service.

Incidentally only two black currants were found on the first day's operation. It may also be of interest to know that in the area covered, there was not only this deficiency in black currant population, but the only other Ribes under cultivation comprised 15 gooseberries and 21 red currants growing on 11 properties.

Nov. 17, 1931.

E. M. Brockway, Mass.

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RUST SPECIMENS SENT PURDUE UNIVERSITY

As a result of an inquiry from the Department of Botany at Purdue University, specimens of the blister rust on Ribes from the newly infested States, Maryland, Virginia, West Virginia and Ohio, were sent that University for examination and for filing in their herbarium. Dr. J. C. Arthur of Purdue University, who is preparing a manual of the rust of the United States and Canada, desired to make the manual as complete as possible.

R.G.P.

OLD-TIME MICHIGAN LUMBERMAN HAD FAITH IN WHITE PINE

This little story goes back about sixty years when the pine was being ruthlessly slaughtered along the watershed of the Muskegon River. It seemed everyone was concerned with the speed of cutting down and getting rid of the timber, rather than cutting under management whereby a sustained yield might be obtained.

However, one lumberman stood out from the rest. He was not a person with money or backing but rather one who lacked the worldly goods. He was a great lover of nature and liked to roam the woods and hunt and fish. He worshipped the white pines and it made him sad to see them going. It was like losing an old friend.

One day he had a chance to buy an "eighty" cheap, which had been passed up as being too poor. Here was a chance to practice forestry as he wanted to, so he immediately purchased it.

The first thing he did was to cut all the white pine to diameter limit. The logs were few in number but more than enough to pay for the land. The best of the pine was located on the north portion of the 80 with red and white oak mixed all through and predominating probably on the south fifty acres. As time went on the pine seeded in heavier and heavier until the entire eighty was covered with a well stocked stand.

In the meantime the sons also had become interested in the project and spent a lot of spare time trimming up the pine and making release cuttings of the oaks and taking care of the brush to reduce fire hazard. A couple or more wood cutters were given work each winter cutting selected trees and up until recently several thousand cords of oak had been cut - enough to keep three families in town in firewood year after year, besides providing some wood which was sold.

This lumberman to have his work continued, deeded the property to his four grandsons with an exception in the deed that stated no disposition could be made of the land or timber until the youngest grantee was 21 years of age and with the understanding that the practice of forestry should continue.

The pine is fast growing up now and overtopping the oak. In fact, the son told me the stand now represents a larger growth than there was before it was first cut. A year ago last spring a small cyclone laid low a small block of nice white pine (in fact the nicest) on the north portion of the eighty on about one and one-half acres. This was not discovered until early summer and then the question arose of what to do with it. Logs were not worth much and there was not enough timber for a sawmill job. It went along until late in the fall when one of the grandsons noted a paper mill was buying white pine pulp wood. He immediately got in touch with the buyer and secured a contract to furnish 100 cords at \$7.50 per cord. An agreement was made with a truck man who was looking for work, to cut and haul to factory for \$4.50 per cord. This was later increased to \$5.00. The contract was

filled lacking about one cord. This made a gross sale of \$750.00 from one and one-half acres which after deducting cutting and hauling charges left a balance of around \$275.00.

This money was deposited in a bank to the credit of the Bolt job to serve as a sinking fund to take care of future taxes, improvements, etc. A Christmas tree plantation has been started on the area logged off and the expense paid out of this sinking fund.

The blister rust problem is being taken care of.

R. I. Thompson, Mich.

Edit: Agent Thompson is one of the fortunate grandsons mentioned above. This article is of interest from several standpoints, not the least of them being that another blister rust is found who has joined the ranks of foresters who have forests.

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NO BLISTER RUST PROBLEM ON WILLARD BROOK
STATE FOREST - MASSACHUSETTS

Our general Ribes clean-up work in the town of Ashby, Massachusetts, this season, included work on the newly established Willard Brook State Forest. This reservation which extends into the town of Townsend, was acquired through the initial efforts of Secretary Reynolds of the Massachusetts Forestry Association and has the reputation of being one of the beauty spots in Massachusetts. Its beauty results principally from its "mountain" brooks and associated topographical features. One of the main highways of the State traverses the reservation and attracts motorists destined to points in southwestern New Hampshire in particular.

This reservation contains a land area of 780 acres but a thorough examination by our men in cooperation with the local supervisor on the Forest disclosed the fact that the area is practically Ribes-free. The only Ribes found were confined to two compartments. In one, there were small local concentrations of skunk currants amounting in total to only 221 plants. In the other area which included an old farm, 63 red currants were still under cultivation and 10 bushes that had apparently escaped from the plants under cultivation.

From our experience on this State Forest we can safely recommend a white pine program without fear of any loss from the blister rust.

Nov. 30, 1931.

W. T. Roop

STUMPAGE PRICES OF NORTHERN WHITE PINE
IN NEW YORK AND NEW ENGLAND *

By Henry B. Steer, Forest Economist,
Division of Forest Economics,
United States Forest Service.

Many inquiries concerning the effect of the present depression on stumpage prices, particularly on northern white pine in New England, have been received by the Forest Service. The opinion has been expressed locally that, owing partly to the general economic depression and partly to the competition of cheap box lumber from the Pacific Northwest, northern white pine stumpage values in New England have suffered a serious setback from which the recovery will be slow and, possibly, never complete.

In this connection the accompanying compilations of actual stumpage sales of northern white pine in New York and New England during the period 1926 to 1930, inclusive, are pertinent and interesting. These data, which have been compiled by the Division of Forest Economics of the Forest Service, were obtained through the cooperation of the Division of Manufactures of the Bureau of the Census and are based on about 50 million feet of northern white pine stumpage in 1926, 45 million feet in 1927, 40 million feet in 1928, 50 million feet in 1929, and 70 million feet in 1930. The sales are for northern white pine where sold in pure stands or where, if sold in mixed stands, the pine was treated as an individual species and not sold with the other species at the same rate per thousand feet. These tables include all of the white pine reported as sold in the several States in each of the five years mentioned. Although a few sales of virgin timber have been reported, it is estimated that at least 95 per cent of the timber involved is second growth. ****.

The table giving the analysis of the 1930 sales, by price range classes, shows that 5 per cent by volume of the white pine stumpage was sold at prices less than \$5 and approximately 50 per cent at a price greater than \$10 a thousand feet. ****.

Under the present depressed condition of the market for forest products it might be difficult to justify the average stumpage price of northern white pine in New England in 1930 by a mathematical calculation of the realization value. The same situation characteristically exists with respect to most commodities produced and manufactured in the United States today. The danger lies in assuming that present conditions will hold in the future, and in overemphasizing the low prices which may have been realized by a few forced sales of stumpage. The owner of standing timber need not, except under unusual circumstances, dispose of his timber in an unfavorable market, but can, ordinarily afford to hold it until market conditions improve. This is one of the favorable characteristics of timber as a crop and should receive the careful consideration of those having timber to dispose of. ****.

* Extracts made by Roy G. Pierce.

The future stumpage price of northern white pine in New England will be determined by a multiplicity of economic conditions. It is obviously true, however, that the proximity of New England to the large centers of population where the largest amount of wood products is consumed, offers a distinct market advantage to the producer of New England stumpage. ****.

Analysis of 1930 Sales by Price Range Classes

<u>Price</u> <u>Range Class</u>	<u>No. of</u> <u>Reports</u>	<u>M Feet</u> <u>B. M.</u>	<u>Value</u> <u>Dollars</u>	<u>Price per</u> <u>M Feet</u> <u>Dollars</u>	<u>% No. of</u> <u>Reports</u>	<u>Per cent</u> <u>Volume</u>
\$ 2.00-\$ 2.99	2	80	\$ 160	\$ 2.00	1 plus	1*
3.00- 3.99	3	1,460	4,380	3.00	2 "	2
4.00- 4.99	9	2,154	8,686	4.03	6 "	3
5.00- 7.49	61	20,490	116,258	5.67	43 "	30
7.50- 9.99	35	10,851	88,985	8.20	25	16
10.00- 14.99	28	31,574	324,098	10.26	20	46
15.00- 19.99	2	1,760	26,400	15.00	1 plus	3
20.00- 24.99	<u>1</u>	<u>50</u>	<u>1,000</u>	<u>20.00</u>	<u>1</u>	<u>1*</u>
Total	141	68,419	569,967	8.33	100	100

* Less than 1/2 of 1 per cent.

(From New Hampshire Forests, Vol. VIII, No. 3, September, 1931, p. 3.)

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SQUIRRELS

There is evidence of rodents, especially squirrels, gnawing blister rust cankers. Oftentimes we find young pines with their limbs bitten off. Sometimes it is rabbits, sometimes it is deer, but is it possible that squirrels will do it?

While on my vacation I noted something I had never seen before. I saw a red squirrel running about over a young fir. The tree was about eight years of age. Cautiously I approached the tree. The squirrel was feeding on the newly formed winter buds. He selected the limbs near the top. The question arose, does he touch the leader buds? On this particular tree he not only ate these but bit off the leader. I watched after this to see if such a thing happens to the pine. I did not see this condition on the pine but noted it several times afterwards on the fir.

Nov. 20

J. M. White, Maine.

WHY LOSE FAITH IN A DEPENDABLE OLD FRIEND?

(As told by George E. Barnard,
of Contoocook, N. H.)

For over 50 years I have been interested in White Pine, New Hampshire's King of Trees. As an owner I have carefully followed its fortunes. My observations have convinced me that White Pine has, as no other single agricultural crop, played such an important part in the economical development of our rural communities and, consequently, that of the State.

Taxes from White Pine have provided the necessary funds for rural governmental activities. Lumbering operations have furnished winter employment for local inhabitants and their teams. Revenues received by owners were the foundation of many of our rural fortunes; White Pine paid up mortgages; provided new farm equipment; assisted in educating farm children, and assured the inactive, non-productive, old age period.

It is true that our White Pine, today, has fallen into sad straits. Stumpage prices are excessively low; demands for it are small, and owners are very much discouraged. And yet, I saw the time, 50 years ago, when similar conditions prevailed - and they later readjusted themselves.

Following the Civil War, stumpage prices were high, and owners capitalized on them. In the early 80's, however, there came a severe depression, and prices dropped fully as low as they are now. ****. Pine owners, becoming hard pressed, offered their lots for sale at ridiculously low prices.

But conditions changed, and stumpage prices rose steadily.

It was about this time that I became interested in White Pine stumpage. Someone offered my father a 17 acre lot. He said to me, "Why, don't you buy it?" I looked the lot over and found it nicely covered with pine. I made an offer of \$95.00, and, much to my surprise, secured it. Later, I bought a number of other lots, and profited thereby.

To be sure, my purchases were made on rather a low market, and some of them sold on a high market, but, the previous owners could have done likewise.

I operated some of the lots immediately, but restricted cuttings to an 8 inch diameter. I delivered box boards in Manchester at \$9.00 per M. The wisdom of these restrictive cuttings was very clearly proven when the remaining trees provided both the nucleus of another crop, and acted as seed-trees for the cut-over area.

When the World War came I had a second crop ready for market, and sold it at a very favorable price. Today, these areas are pretty well seeded to young pine. Some day, my heirs will operate again.

The immediate depressed condition of the pine market has accompanying features that were not present in the "early 80's", which in those days seemed to offer many people almost insurmountable obstacles. ****.

There is always a market for quality lumber. The trouble with our New England White Pine lies in its inferior quality. Most of it is of box-board type. When we decide to grow superior quality timber, then we will be making a start in the right direction. ****.

Last winter I had 10 acres of White Pine improved. It was a mixed stand, with pine predominating. The lot had come to a standstill, and, in my judgement, had not grown much for 10 years. It had cost me \$80.00 to remove the hardwood growth, and some of the undergrowing pine. I realized 22 cords of mixed firewood. I paid \$3.00 a cord to have it delivered at my house; a total cost of approximately \$7.00 per cord, about the same as the commercial delivery price.

In my opinion during the next 10 years the new growth will increase materially. The next step in forest management will be a thinning and pruning of the best trees left. I figure the cost of improvement to date has been practically nothing. NATURE WILL IMPROVE to a certain extent, but MAN must take an active hand in assisting. ****.

We should not forget the necessity of protecting our White Pines from the Blister Rust Disease. ****.

My experience with White Pine, having seen its prices "UP & DOWN" are that it is a pretty dependable old friend, and I haven't lost my faith in its future, in spite of its present day handicaps.

Judging the future by the past, I believe it will be a VALUABLE CROP, although prices may not be as high as they were during the war - but who knows?

In this period of extreme pessimism, I feel reasonably optimistic regarding WHITE PINE - and am preparing FOR BETTER DAYS.

(From New Hampshire Forests, Vol. VIII, No. 3, September, 1931, p. 9.)

Extracts made by R. G. Pierce.

O F F I C E C O M M E N T

TRAVELING EXPENSES - PERSONAL CONVENIENCE

An employee absent from his headquarters on official business who interrupts his travel status to proceed to another point due to the death of a relative and who is recalled to headquarters from that point, is entitled to reimbursement of so much of his actual expenses, including per diems, as would have been necessary had he returned to headquarters from his place of temporary duty. (A-38077) 11 Comp. Gen. 106.

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SATURDAY HALF HOLIDAYS - LEAVE OF ABSENCE WITHOUT PAY

Time on Saturday in excess of four hours has a holiday status and should be excluded from annual leave with pay and included in sick leave and leave without pay.

If a per diem or per annum employee is properly entitled to the Saturday part holiday with pay, active duty pay for part of the Saturday should be computed on the basis of a 4-hour day, each hour's work being computed as one-quarter of a day's pay, whether the regular number of hours' work on other days be seven or eight.

An employee in a pay status part of a Saturday but in a nonpay status at the close of business on such day generally should be given no benefit of the shorter day, pay for a portion of the day worked to be computed on the basis of a regular working day. (A-38695) 11 Comp. Gen. 119.

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TRAVELING EXPENSES - MILEAGE FOR USE OF PRIVATELY OWNED AUTOMOBILES

The act of February 14, 1931, 46 Stat. 1103, authorizing the payment for the use of a privately owned automobile on official travel on a mileage basis, limits such payment to the employee's "own automobile", and payment on a mileage basis may not, therefore, be made to a civilian employee for the use of a borrowed automobile. (A-38655) 11 Comp. Gen. 118.

SHIPPING OF BLUEPRINTS AND DRAWINGS

Memorandum to Chiefs of Bureaus, Divisions and Offices

Attention is directed to the following communication received from the Postmaster, Washington, D. C.

"Complaints are received by this office that rolls of blueprints and drawings mailed by the various Government departments frequently reach destination considerably delayed. Mail matter of this class is at all times dispatched from this office as first-class matter, but as blueprints and drawings are classed as fourth-class matter, it appears that employees of the Railway Mail Service, in the absence of any indorsement to show that they should be treated as letter mail, are treating such mail as matter of the fourth class. When handled as fourth-class matter the rolls are sent to railway post office terminals for distribution and are thereby delayed in reaching the addresses.

"With a view to having these rolls reach the addressees by the most direct routes, the same as letter mail, it is requested that instructions be issued to all concerned that the wrappers of rolls of blueprints and drawing be hereafter conspicuously marked "FIRST CLASS". Your cooperation in this matter will be appreciated."

November 13, 1931.

W. W. Stockberger,
Director.

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NOTE FOR FIELD MEN ORDERING SUPPLIES

In order that the supplies needed for this coming season may be shipped promptly, kindly look over your stock and send in your order as soon as possible. If you do not have space to store your supplies until they are needed, send your order in now, indicating the date you wish shipment made and we will pack and hold until that time before making shipment. In ordering forms and other supplies, request only enough for the coming field season.

H. P. Avery

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USE OF PERSONALLY-OWNED AUTOMOBILES

Personally-owned automobiles, either on mileage or actual operating basis (gas and oil), should not be used on official business unless your letter of authorization specifically states that you have such authority. The mode of travel authorized, unless otherwise stated, is by common carrier.

H. P. Avery

AMONG OURSELVES

Mr. A. E. Fivaz returned to the Washington Office on November 16 from Warrensburg, New York, where he has been conducting his Ribes ecology investigations.

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Mr. F. H. Rose, who has been with Plant Quarantine and Control Administration this fall, returned to his former position of blister rust agent in Vermont on November 16.

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Mrs. Wilda Dixon, file clerk in this office, is a surgical patient at the Homeopathic Hospital in Washington. We are glad to report that she is getting along nicely.

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PUBLICATIONS

Blister Rust

Hubert, E. E. "White Pine Blister Rust", pages 270-287 in "An Outline of Forest Pathology", published in New York in 1931.

Dr. Hubert divides the publication under the following heads: Hosts, symptoms, pathological histology, the causal agency, damage, and control. The part devoted to blister rust is well illustrated with not only a diagram showing the life history of the rust but photographs showing its varied appearance on Ribes leaves and pine. Control of the disease particularly in Idaho, is well depicted. Dr. Hubert classifies the eradication methods under the following heads:

- a. Hand eradication: The removal by hand pulling or by use of various implements, such as grub hoes, picks, etc.
- b. Chemical eradication: The killing of entire Ribes plants by spraying the foliage with a toxic chemical solution.
- c. Various combinations of a and b.
- d. Eradication by means of fire: This is usually preceded by a brush clearing operation or by chemical spraying of the brush. The burning is done under permission and supervision of Federal and State forest officers.
- e. Forest management: The application for forest stands of methods of cutting which will result in the establishment of a minimum number of Ribes plants in the cut-over areas.

FACTS CONCERNING THE FOREST SURVEY

Through the courtesy of the U. S. Forest Service a circular entitled "Facts Concerning the Forest Survey - Its Scope and Value", together with mounted enlargements of 11 of the tables, was sent to each of the blister rust control agents in the East and to the Western State Leaders. That this material will be of value seems to be proved by the following comments:

"The publication you sent 'Facts Concerning the Forest Survey' was indeed a ten-strike. I appreciate it very much and it will prove quite interesting in connection with talks, etc. In fact I used it the second day after it arrived at a meeting of the County Forestry Committee at Woodsville. I noticed that the members all studied it and made some very complimentary remarks about it. Thanks much for the favor."

T. L. Kane, N. H.

"Received your memorandum of Nov. 27, also the circular and tables. They are very good and do not think but what they can be used to good advantage; thanks for same. Weather is not so bad in the north country to date."

B. H. Nichols, N. Y.

"This is a splendid thing and contains information that should prove of value in lecture work. Many thanks."

L. E. Newman, N. H.

"Mr. Goodding has received the material regarding the Forest Economic Survey, and he finds it extremely valuable."

D. L. Anderson, Oregon.

"This is to acknowledge the receipt of several tables bearing upon the Forest Survey. At least some of these can be well used in lecture work. I also see a good chance to use them in connection with fair exhibits."

G. A. Root, Calif.

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THE WASHINGTON OFFICE HAS A MEMBER OF THE HOLE-IN-ONE CLUB.

Mr. J. M. Palmer made a "hole in one" at the Beaver Dam Club at Landover, Maryland, November 21. It might be stated that only 2 others in this Club have made a "hole in one" within the past 4 years. Congratulations from all the golfers on the force, as well as the "would be's".

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